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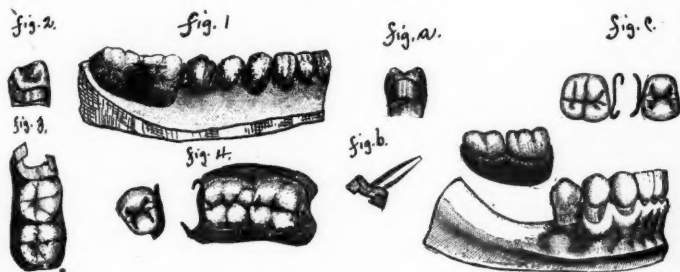
Original Contributions.

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THE CRIGLER REMOVABLE DENTURE.

DESCRIBED BY DR. B. J. CIGRAND AT THE REQUEST OF THE AUTHOR,
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The difficulty experienced by the dental profession in attaining satisfactory results in lower buccal-dentures and the inconvenience they have given the patients, afford a most interesting title for an extensive discourse. The primary trouble seems to come from the instability of the denture; the process of mastication is very much interfered with, since the denture does not remain firm on the



alveolar ridge, and in consequence greatly obstructs proper occlusion while masticating.

The profession has long wished for some appliance which would correct the uncertainties of these "lower buccal-dentures." Dr. Crigler, it appears, has devised a substitute which in many respects alleviates these undesirable annoyances. Few cases present a better field for contemplation or invention than those cases where on one side of the lower jaw the molars and possibly the first bicuspid are missing; and these cases are not infrequent in a large practice. In

fact, they are so numerous that practitioners have attempted innumerable methods without attaining the hoped-for success. Invariably we find, in the cases cited, that in order to replace these missing organs it becomes necessary to produce what is known as a "horseshoe base-denture," an attachment whose base completely encircles and encroaches upon the lingual surface of the lower teeth. Other operators have found it advisable to somewhat abridge the extent of the "horseshoe" by supplying gold-clasps to the base and attaching these to the natural teeth, thus affording some stationality to the denture while articulating or masticating. But there has not as yet been a substitute brought forth which in every detail answers all requirements relative to the cardinal principles—cleanliness, adaption, articulation and mastication. Not even in the Crigler method are these necessary requisites supplied—still by his method there is a decided step in the right direction, and if one will closely study the underlying principles of his process this truth will be revealed.

In the first place, by his manner of substitution the entire lingual arch of the teeth is not covered or annoyed by foreign substance, healthy surroundings are furnished for the dental organs, and further, there is no encroachment on the lingual cavity, thus allowing the tongue all possible freedom.

The process of construction may at first sight appear difficult and even intricate, but on better acquaintance one is impressed with the simplicity of the apparatus. In fact one can hardly conceive of a process which will embody all the desired results and be free from technic.

Dr. Crigler advances two methods for ascertaining the same sequences, and it shall be my pleasant duty to illustrate and explain the *modus operandi* in the construction of a denture according to his recommendation. In the case before us, Fig. 1, the right lower molars are missing, the other teeth are in good condition and are in perfect anatomical position. The first step is to prepare in the usual way the second bicuspid for the reception of a barrel or telescope gold crown, after which solder upon its disto-lingual surface a piece of clasp metal (platinized gold) gauge 24, shaped much like Hogarth's line of beauty; adapt it to the gold crown, as in Fig. 2, and attach same by solder, that is, flowing full the lingual contact, but permitting the buccal end to remain free as in illustration. The next step is to produce a piece of clasp-gold which will perfectly

complement the crown attachment, Fig. 3, thus anchoring the clasp-complement. Now remove the complement and solder to it a bar of platinum or stiff gold, allowing the latter to extend over, yet not to rest upon, the alveolar ridge; then anchor the complement. Wax up that portion of the alveolus which you intend shall carry the vulcanite, then accurately fit and occlude the artificial teeth and proceed to invest the case and treat it as an ordinary vulcanite denture, Fig. 4; the subsequent steps relative to polishing or adjusting are readily understood.

The second method is very similar to the foregoing, differing only in the crown-bar and its complement. By this process the gold crown has soldered upon its distal surface a piece of gold or clasp-metal, gauge 24, and shaped like an equilateral with the cone missing, Fig. a; this is soldered to the gold crown in such a manner as to leave unsoldered and free the lingual and buccal ends; its complement is produced as before described, Fig. b, that is to thoroughly embrace the crown-bar, as in Fig. c.

This device is indeed ingenious, and its perfect stability as well as its durability recommend it to such as are hopeful of correcting in a measure the unsatisfactory and cumbersome dentures employed in present-day practice.

MY EXPERIENCE WITH CATAPHORESIS.

BY J. N. CROUSE, D.D.S., CHICAGO.

Threats of patent litigation forced me to give the subject of cataphoresis more than a casual investigation, but I did not give it any practical trial until after the valuable paper read at the American Dental Association by Dr. W. H. Gillett. The claims therein made by such an authority compelled me to lessen my skepticism as to the efficiency of a current of electricity in bringing about that much-to-be desired condition which would enable us to prepare sensitive teeth for filling without that excruciating pain which we were constantly inflicting upon our patients. So I began to experiment and found the use of cataphoresis so satisfactory that nothing could now induce me to be without it in my practice, and nothing but my own personal experience could have convinced me of what can be accomplished.

I am being overwhelmed with inquiries something like this: "Can you really take a very sensitive tooth and with the aid of catapho-

resis render the tooth insensible to the bur?" And such questions come from the most intelligent men in the profession. For the benefit of them and others I will state emphatically that I can render any tooth with healthy circulation free from pain in the preparation of a sensitive cavity, or in other words, can reduce extremely sensitive dentin to insensibility. To do this the following conditions must be rigidly observed: You must have absolute dryness, as a flow of saliva will conduct the current away from the tooth upon which you are working. There must be no metal fillings exposed to the current. The positive electrode must be kept firmly in the cavity or cavities, and must not be allowed to come directly against the enamel of any of the teeth. Failure will result if any of these precautions are neglected.

How to conduct the current to the tooth. The first step is to secure absolute dryness, which necessitates the careful adjusting of the rubber-dam. To obviate the necessity of using a clamp, which is always more or less unpleasant and in the way, I find that the dam can be held securely in place by oxyphosphate of zinc. The teeth should be thoroughly cleansed before the dam is put on, and after being adjusted it should be held in place by a properly curved instrument, the moisture wiped from the necks of the teeth and a small quantity of oxyphosphate applied to them. It soon becomes hard and is not affected at all by moisture and the dam cannot be worked loose by the patient. It can also be held in place in the same way when the cavity is under the margin of the gum. When the dam is properly adjusted and dryness secured, the cavity should be opened and as much of the soft decay removed as is possible without causing pain. Next, any metal fillings which may come in contact with the electrode must be insulated. To do this I have had great success in the use of a thin solution of aristol dissolved in chloroform. The chloroform soon evaporates and the aristol adheres with great tenacity to the clean surface of the teeth or fillings. Wax or gutta-percha will answer the same purpose, but something must be used which will prevent any contact of the metal filling with the electrode or cocain.

Instead of using in the cavity the platinum point, which must be held steadily with the hand or secured by some appliance, thus taking time and effort, I use a small piece of fine german-silver wire, 32 gauge. One end of this wire is attached to the positive electrode

and the other is wound around a pellet of cotton large enough to fit tightly in the cavity. It will remain there firmly and give the operator the freedom of his hands, enabling him to work in some other part of the mouth, which I frequently do while anesthetizing a tooth, or to work for another patient until the dentin is obtunded. I use the german-silver wire which has a double cover of cotton or silk, of course removing the covering from the end which is attached to the electrode. The question of discoloration resulting from the use of german-silver wire has been raised, but I have never yet seen any deleterious effects from its use. Dr. Ely, of this city, who has also used it in the same way, does not think that it will discolor the tooth. If you wish to use platinum wire, or any wire which is not covered, it may be coated with the aristol and chloroform above mentioned and thus be insulated. After the pellet of cotton is packed into the cavity it should be saturated with a solution of cocain. Then with the negative electrode moistened and held firmly by the patient we are ready to turn on the current.

The amount of current that can be used to advantage in each particular case depends entirely upon the size of the cavity, the amount of dentin exposed and to be operated upon and the sensitiveness of the tooth. If very sensitive the patient will bear less voltage than where the dentin is not so sensitive, and where much cutting of the solid tooth substance is needed more voltage will be required.

The irregularity of the current and consequent shocks to the patient are difficulties which have tended to discourage the use of cataphoresis. Discovery of the causes and removal of the same is sure to do away with these prejudices. Many times the cause of irregularity in the current while being conducted to the tooth is due to imperfection in the instrument. As described by Dr. Custer, a fountain spittoon attached to chair will give a shock, in case it (and we would also include from experience any of the exposed metal about the chair) be touched by the patient; consequently, felt or rubber washers should be placed between the metals where they are attached to the chair. If the bare metal of positive electrode be allowed to touch the enamel of the teeth the current can be largely increased without unpleasant sensation to the patient, since the enamel is a non-conductor, and then when the electrode slips away or is moved from the enamel the full current will be turned into the

tooth, resulting in shock. Should the patient let go of and then take hold of the negative electrode while the current is on a shock will be given. By removing the current too rapidly from the tooth a shock is produced.

I am using the street current and, with a voltage rheostat as well as a current controller, do not see how injury can result from the use of this kind of current. By combining two sets of wires I have turned 220 volts through the instrument and have then tried it on myself, without any unpleasant results or shock. It has seemed to me sometimes that the danger apprehended and the accidents reported as resulting from the use of street currents come for the most part from those having batteries to sell. I know of various ones using the street current, but have not heard them complain of having much difficulty with it. It is surely much less trouble than the battery, where the street current is reliable, although a battery is satisfactory where the other is not available.

The extra time required is sometimes urged as an objection. Time is consumed in producing the anesthesia, but this can be lessened considerably by allowing the patient to operate the controller, and you can then operate somewhere else in the mouth or can have other patients for short sittings on another chair. I prefer these methods so as to give the cocaine plenty of time to penetrate the tumuli of the dentin, producing complete anesthesia and making good the promise which has probably been given—that I will prepare the cavity without any pain. Then when there is no sensation it takes but a very short time with a sharp bur to prepare a difficult cavity, and thus with the majority of patients time is saved, as it would take hours to prepare the cavity as thoroughly as it can be done when the sensibility is deadened. Furthermore, there are two other very important points which must not be overlooked. The first is the fatigue and nervous strain upon the patient when very sensitive teeth are operated upon, which is obviated by removing the sensitiveness; and the second is the relief from the nervous strain upon the operator. I think that since this is the case it is our duty to afford our patients and ourselves this relief.

Finally, there is no service which will command such generous appreciation and be remunerated so cheerfully and liberally as the abolishing of the torture which most of our patients undergo while having sensitive teeth prepared for filling.

ACONITE FOR SWOLLEN FACES.

BY T. A. DAVIS, D.D.S., WARSAW, ILL.

In the spring of 1887 my little daughter had an inflammation of the submaxillary glands which was prevalent at that time, and as she was suffering intensely I called in a physician to attend her. He prescribed a poultice made of hops, elm, musk, tar and goodness only knows what else, and as this gave no relief he lanced on both sides, disfiguring her face for life.

Before she recovered I was attacked with the same trouble and the doctor prescribed the "poultice," not knowing what else to do. It was applied in the morning and I wore it until evening, but then, being in agony, I sent my son to the office for my tr. of aconite bottle. When it came I unwrapped my face, washed it in cold water and then bathed it with the aconite, using about half an ounce. This afforded some relief, so I rested an hour and then bathed my face again with the tincture, using nearly an ounce; then went to bed and to sleep and had no more pain whatever, although the swelling did not entirely disappear for several weeks. When I told the doctor the next day what I had done he asked if I had "no fear of death," but he afterwards admitted that he had learned a lesson from the experiment.

In my practice I use the root tincture with good results on faces swollen from abscess, removing the stain with a wet napkin. Last February I was called by a physician to see his little daughter, a child of 10 years, who was suffering with abscess of the first left inferior molar. The whole family had been up two days and nights with her and her head was wrapped in a shawl, as the air hurt her face. I prescribed the topical application of tr. of aconite and plenty of it, and the removal of all wraps from her head. In two hours the child was easy and went to sleep, and her father said he had learned something. Thinking that others might profit by these experiences is my excuse for writing this.

METHOD OF TREATING AND FILLING PULPLESS TEETH

BY L. E. DISNEY, D.D.S., PEABODY, KAN.

Having read scores of articles on the different methods of treating and filling pulpless teeth, without ever seeing or hearing a description of my method, I felt inclined to write it up for the *DIGEST*, think-

ing that it might be productive of some good. This is my only apology for taking up the pen on this subject.

Some time in the early sixties I date my first recollection of the use of carbolic acid. It was introduced to the profession as a medicine possessing great disinfectant and antiseptic properties. Its use became very extensive and won for it a permanent place in the pharmacy of many dental offices.

A common practice in those days was to saturate a small pellet of cotton with the acid and pack it into the roots of pulpless teeth, almost irrespective of the cause of that condition. Recent writers have mercilessly condemned that practice, and yet it now seems to me that we had no more trouble then with teeth so treated and filled than we have now with all our boasted scientific, literary and artistic improvements.

Scholarly research and scientific investigation have discovered and made prominent numerous new remedies and inaugurated many new methods, some good, others bad. Old remedies and methods have been abandoned for the new ones. Experimentation still goes on, bringing something new daily to the front for time to adopt or reject. That is right. "Prove all things; hold fast that which is good," is a doctrine never more intelligently and energetically practiced than to-day, and we are proud to say that the dental profession is well up in the lead. The idea of looking to our leaders for every innovation has been too common in our profession. Every wide-awake dentist should be his own leader so far as his ability and circumstances make it possible. One member has as good a right to invent new methods and formulate new theories as any other man, but he must be careful to know that his invention can be practically useful and his theory logically proven if he would be successful.

These reflections bring me to the main thought of this paper, my method of treating and filling pulpless teeth. The pulp is devitalized in the usual way. The roots are cleansed as thoroughly as possible, then with cotton dipped into a mixture of alcohol and aqua ammonia, in which, owing to the quantity of liquids, two or three grains of salicylic acid have been dissolved, the roots and crown cavity are thoroughly drenched. In a few minutes this is replaced by cotton dipped in campho-phenique and covered with a pellet of dry cotton. The patient is then dismissed, usually for two days. At the next sitting a fresh dressing of the same kind is inserted to

remain until the root-filling is prepared. I use oxyphosphate and prepare it as follows: A drop of cinnamon oil is placed on the slab with one or two drops of the cement-liquid and the two are thoroughly mixed. Then the powder is added and worked in till the combination is as thick as good rich cream. With instruments, oiled with glycerin to prevent the cement from sticking to them, the operation of filling the roots is begun and the cement is carefully pushed up until the patient can feel it at the root-apex. Then with larger instruments I continue to press in the cement, and when the pressure by instruments too large to enter the roots produces a slight sensation at the apex, I consider them well filled and proceed with a ball burnisher, or something similar, to spread the cement out over the floor and up against the walls of the cavity, always taking care to leave it in good shape for the reception of our filling, whatever it may be.

Teeth in which the pulps have been dead for months are treated in substantially the same way, but longer, as the treatment must be continued until the cavities are perfectly sweet and clean.

Occasionally, either in the case of devitalization or where the pulp has been long dead, there may be a little soreness at the apex of the root, owing to careless crowding of the cement a little too far, but it usually disappears in a day or two, especially in the former condition.

The method above described, albeit imperfectly, I have practiced for several years and can testify to its merits. My success has been much greater than with chloro-percha and gutta-percha points, or with any other material I ever tried. To be sure I have had some failures, but who with whatever methods does not have them, and this plan of procedure gives fewer than any other with which I am familiar.

SURE CURE FOR FELONS.

BY F. J. FESLER, D.D.S., LOWELL, MASS.

I wish to give the readers of the *DIGEST* a sure cure for felons—that is, taken in the incipient stage. A felon, as you know, is many times caused by burns, bruises and the like, and very often by the long continued and constant pressure of small instruments, making dentists very prone to this troublesome affliction. The first sign is a little sore point under the skin, feeling as if a needle-point or piece

Digests.

DEATH FOLLOWING THE ADMINISTRATION OF NITROUS OXID. By H. A. Hare, M.D., Philadelphia. The following case illustrates the influence which nitrous oxid gas may have when administered to persons suffering from atheromatous blood-vessels. A man between 50 and 60 years of age visited the office of a well-known dentist who makes a specialty of extracting teeth under the influence of nitrous oxid gas, in order that he might have removed one or two molar teeth which were giving him trouble. He had often taken gas in the same dentist's office before, and always without any ill effects whatever. On this occasion he took the ordinary quantity, his teeth were extracted, and he returned to consciousness with the usual rapidity. He left the chair and walked to a washstand and began to rinse out his mouth with water. While doing this he stated that his right hand felt numb, then complained of the extension of this numbness up his arm, and rapidly to his leg and side. He was helped to a sofa, where in a few minutes he became partially unconscious. When I saw him the attack had already been in existence about twenty minutes. He was breathing stertorously, seemed to understand questions put to him, but was unable to answer them clearly, and in the course of a very few minutes passed into absolute insensibility, which, notwithstanding the use of venesection and other measures, deepened into a coma, in which he died about twelve hours after taking the anesthetic.

This case is reported, not as a death due to the direct influence of nitrous oxid gas, but as an instance of the fact that the marked rise of arterial pressure which is produced by the administration of this drug during the period of anesthesia may cause the rupture of a blood-vessel in persons who have a tendency to apoplexy.—*Therapeutic Gazette*, December, 1896.

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DEPARTMENT STORE DENTISTS. On November 12 the superintendent and two employes in the dental department of the Siegel-Cooper Company were arrested upon the complaint of the Dental Society of the State of New York, the charge against each

of glass had become imbedded there, and tender to pressure. Then go to the druggist and get a fresh piece of "Fly Blister," one-quarter inch square, place it over the tender spot and hold firmly in place with court-plaster. Put it on before retiring at night and in the morning a blister filled with serum will be present. Remove the fly blister, prick the blister, letting the contents out, then protect the sore spot for a few days and you will escape a felon. I have found this to always be a sure cure, if used in time, and no harm is done if a sore spot is wrongly diagnosed as a felon.

CANCER OF THE TONGUE.—Dr. Frank Martin read a paper on this subject, in which he described the character of the growth usually present, the epitheliomatous; the age when it was most prevalent, 45 to 68; the length of time it took the growth to develop, six months to three years; and the various operations for its removal. He said that the symptoms at first were very undefined, with very little pain. It usually began on the side of the tongue and in its anterior half, and the duration of life without operation had been recorded as from one year to eighteen months. He spoke of the various operations, such as that done with tracheotomy, with excision of the jaw, and with operation through the mouth. He found that the operation by excision of the jawbone gave the most complete results and in his experience the wound healed kindly.—*Med. Record.*

EUCAIN IN TOOTH EXTRACTION.—The *London Therapist*, September, states that the following procedure has in dentistry been found acceptable: 1. Dissolve 1 part of eucain in 10 parts of water, and boil the solution; before injection the solution must be quite clear. It is best preserved in a small-stoppered glass bottle. 2. Before extraction disinfect the mucous membrane thoroughly by washing with a plug of cotton-wool soaked in hydrogen peroxid or a 2 per cent carbolic acid solution. 3. Make the injection by inserting the needle well into the gums, about half way up the alveolus, and only inject so much of the solution that the mucous membrane in the neighborhood becomes white and slightly raised. Both buccal and lingual injections must be made. It is the most important that the solution should not be injected at the junction between the gums and the mucous membrane of the cheek. 4. The extraction is made about one minute after, when the patient has himself felt the anesthesia, and not directly after injection. 5. After hemorrhage has ceased, I remove the eucain solution by puncturing with the needle and pressing upon the part with my finger. 6. Slight swellings nearly always occur after every extraction with resection. If the operator has used much eucain, and especially if it has been injected near the juncture of the gums with the mucous membrane of the cheek, so that edema is anticipated, the patient should be told that a swelling will probably appear, but be perfectly painless and subside of itself within a day or two. I consider this swelling quite without danger, as it is completely painless and so quickly subsides, and because I have never observed any other secondary symptoms.

served without it? Most assuredly it does. But for the pain the average man—not, perhaps, the scientific man, but the average man—would not pay heed to his injury; would, not, in fact, devote the necessary time and trouble to its perfect repair. We have to consider what the average man is for the purposes of this discussion. He is not the average modern American, or modern European, tinctured with all the culture, all the science, all the high morality of the modern world. He is the typical person of no education, who has made up the generations of men from the earliest times when mankind emerged from the practically brute condition into dawning moral consciousness. That is the average man to be considered when we ask what may be the purpose of pain. Has pain had a purpose of any kind for all those countless generations of the uncultured past who have constituted the solid mass of mankind? Most assuredly it has had a purpose—many purposes. It has compelled attention to injured structures; it has enforced rest and sleep by the distress of weariness; the taking of food by the tortures of hunger; and, in short, has been the general indicator and corrector for man and beast in the exercise of physical and physiological energy of every kind. Not only so, but the moralist and the religious teacher will unite in insisting that the educational value of pains in the regions of morals and religions has been and continues to be incalculable. So, far from agreeing with Dr. Weir Mitchell that pain has no purpose in the world, we affirm that one of the most obvious of all the facts connected with pain is its definite and incalculable value, as an indicator, corrector, educational force, alike in physical, mental and moral spheres.”

This being so, an objector may say, why interfere with pain at all? This stand was actually taken by many who held, at the time of the introduction of anesthetics, that to use them was to fly in the face of the Almighty. But the *Hospital* points out that such a course would be quite illogical. It says:

“That which is essential for one period of human development may not be essential for another. The sharp physical stimuli, the clubs and spears of the early savages, are not needed by the later race of men. In earlier times hunger, thirst, fear of wounds from enemies, the most elementary of all sensations, were needed to compel even the highest races of men to do the best that was in them. In our times there are millions who work in obedience to motives

being that he had practiced dentistry in New York county without registering therein according to law. All of the accused waived examination and were held for trial at special sessions, wherein several adjournments were granted to them. Finally, on December 3, all of these cases were set down peremptorily for trial. Counsel for two of the accused asked a further adjournment, upon the ground that the attorneys previously employed by them had abandoned their cases, and that he had just been retained and wished to call witnesses to prove his clients' innocence. The court said that under the rules the adjournment could not be granted against the opposition of the prosecution. Counsel for the Dental Society then said that, although the only defense to the charge of non-registration would be the proof of registration, which, if it existed, could be procured within ten minutes from the county clerk's office, he would, nevertheless, consent to an adjournment until the following day, upon the absolute condition that the cases should be tried then. Upon this understanding, Mr. Mingey, the counsel, accepted the adjournment, and forthwith procured a stay of proceedings and an order to show cause why the cases should not be transferred to general sessions. Upon the following day the other defendant was then tried and convicted—one judge, however, dissenting from his colleagues' opinion that the examination of a patient's mouth and subsequent advice as to the condition of the mouth and what was needed to be done constituted "practice of dentistry," the dissenting judge being of the opinion that some mechanical or operative act should be performed.—*Medical Record, December, 1896.*

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UTILITY OF SENSATION OF PAIN. Purpose Served by Tortured Nerves is to Call Attention to Physical Troubles. The statement of Dr. S. Weir Mitchell, in his address on "The Birth and Death of Pain," at the recent Boston celebration of the semi-centennial of anesthesia, that the purpose of pain is "a riddle to which earth can give no answer," is called in question by the editor of the *Hospital* in a leading article (December 5). To the editor the use of pain, far from being a riddle, is so clear that he who runs may read. Pain is to the ordinary man a warning of danger. Says the editorial to which we refer:

"Here is a man with a painful, broken arm. Does the pain serve any special purpose, any purpose which might not as well have been

altogether different from the driving forces of hunger, cold and physical fear. Ambition compels exertion, duty, mere love of work. And so the element of painfulness being less and less heeded, plays a less and less conspicuous part as a driving and correcting force in the world. Will pain, or the possibility of pain, ever be eliminated from the experience of man or 'killed,' as Dr. Weir Mitchell might prefer to put it? Most probably not, so long as man is endowed with his present nervous system. But it is possible, nay, it is quite easy, to imagine a time when mankind in general shall have reached such a stage of mental capacity and culture, such a wide and masterful victory over nature, such a degree of physical vigor and material prosperity that pain shall be a very exceptional fact in his experience. This is the goal at which a philosophical medical science must at any rate aim, with all the energy of which it is capable."—*Literary Digest*.

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THE DENSITY OF THE TEETH AND ITS RELATION TO CARIES. By C. N. Johnson, L.D.S., D.D.S., Chicago. Read before the Chicago Odontological Society, October 20, 1896. In the May, 1895, issue of the *Dental Cosmos*, Dr. G. V. Black began the publication of a series of articles, entitled "An Investigation of the Physical Characters of the Human Teeth in Relation to their Diseases, and to Practical Dental Operations, Together with the Physical Characters of Filling Materials."

This was the first really systematic and scientific effort made to determine the varying density in the teeth of different individuals or of different teeth in the same individual. Previous to this it seemed to be the generally accepted opinion of the profession that this variation was pronounced, and in many instances very great. The expressions, "hard teeth," "soft teeth," "dense teeth," "chalky teeth," etc., were frequently found in the literature of the profession, and this was supposed to refer to teeth having a greater or lesser percentage of lime salts. The density of the teeth was also believed to have a marked influence upon the liability of teeth to decay, and it was largely taken into account by many operators in the selection of a filling material.

Dr. Black finally became dissatisfied with our lack of exact knowledge of the subject, and instituted a series of painstaking and elaborate experiments to determine the true density and relative

strength of the different teeth. In following out this most exhaustive work he spared nothing in the way of time, labor or expense to arrive at definite and conclusive results. It gives me pleasure at this time to testify to his unceasing attention to the minutiae in every phase of the work. It was my good fortune to visit him in his laboratory during the progress of the experiments, and to witness the process to which he subjected every specimen in his records. That visit impressed me with the conviction that I had never till then witnessed true scientific investigation, and made me morally certain that so far as human agency could insure infallible results the issue of Dr. Black's findings must be final.

This series of experiments proved conclusively that the generally accepted idea of the profession in this matter was at variance with the facts. Dr. Black found that at most there is very little difference in the percentage of lime salts in the teeth of different individuals. In fact, to use his own words, "There is a difference between the individual teeth of the same person that is much greater than the difference in averages of the teeth of different persons."

It has seemed to be very difficult for the profession to follow Dr. Black's investigations, or to see the significance of what he has demonstrated. Probably only a very small percentage of the profession are in the habit of reading papers of this nature, and even among those who do, it is asking much to expect them to at once renounce their preconceived notions and fall in with a wholly different point of view. More especially is this true if their original ideas have been formed from an extended clinical observation. Men are inclined to cling tenaciously to what they believe their experience has taught them, even when confronted with facts which prove their ideas to be faulty. In this, as in many other things, clinical observation is not altogether reliable; and yet the profession goes on basing its opinion largely on what it thinks it sees.

In any event we still find in our periodicals frequent references to "hard teeth," "frail teeth," "soft teeth," etc., relating to the supposed varying degrees of density, and we also see certain kinds of filling material advocated for certain kinds of teeth. In the light of Dr. Black's investigations, such references are misleading, and such reasoning erroneous. There is very little difference in the structure of human teeth, so far at least as the percentage of lime salts is concerned, and there are no teeth of so poor a struc-

tural quality that they are unsuited for the reception of any of our hardest filling materials. Other things may materially influence our selection of a filling material, but the structure of the teeth has little to do with the question.

In this connection it may be well to consider a point that has seemed to lead to some confusion of understanding. The question arises as to what is really meant by the average practitioner when he says "hard teeth," or "soft teeth." Dr. Black once asked me what kind of an answer I should expect to get from members of the profession generally if asked what meaning they intended to convey by these terms. I said, "I should expect them to answer that by 'hard teeth,' they meant teeth that offered great resistance to cutting instruments, teeth that were difficult to break down with a chisel or pierce with a bur or drill." Said he, "You are mistaken. I have asked many of them and they almost invariably answer that by 'hard teeth' they mean teeth that do not decay readily, and by 'soft teeth' they mean teeth that are easily attacked by caries and break down rapidly under its influence."

It would seem to the observant operator that at best this form of argument was reasoning from effect to cause instead of from cause to effect, and if this be the real opinion of the profession at large it is proof positive that they have not carefully considered the question. It has certainly been demonstrated beyond the shadow of a doubt that the density of a tooth has little to do with its liability to decay. That all teeth are not alike in structure, so far at least as certain phases of their physical character is concerned, must be admitted, but that this difference relates to any great variation in the percentage of lime salts or that it has anything to do with the carious process has been sufficiently disproved.

One fact has seemed to mislead many operators and cause them to look with doubt upon Dr. Black's conclusions. His first series of articles went to prove that the teeth were quite uniform in their density, that there was little variation in the percentage of lime salts, and that the expressions "soft teeth," etc., were misleading. Men read these statements and then proceeded to note as best they could in the mouth the physical character of the teeth to the end that they might verify or disprove what Dr. Black had written. The thing that struck many of them immediately was the appreciable difference in teeth in their power to resist cutting instruments.

That this difference does exist seems scarcely to be doubted; it has been noted by too many operators who are not careless in their observations. This fact confused many of them and led them to assume that there was some discrepancy between Dr. Black's findings and the actual facts.

When this question was brought to his notice Dr. Black hastened to state, in a paper read before the New York Odontological Society, and published in the April, 1896, issue of the *Dental Cosmos*, that his investigations had not included this phase of the subject. He says: "Since the publication of my papers, I have been so frequently asked about differences in the hardness of the teeth to cutting instruments that I wish to say emphatically that there was no intention of saying anything whatever on that point in what I have written. Whenever hardness or softness of the teeth is mentioned, it has been with reference to the prevailing expression of hardness or softness as expressing the idea of more or less perfect calcification, or with reference to the ability of the dentin to withstand heavy pressure without crushing. It has not had reference to the behavior of the teeth before cutting instruments. I did try to investigate that point and tried a number of plans. None of them gave results that were satisfactory, or that I thought valuable. I will say here, however, that experimentally out of the mouth I was unable to find any marked difference between teeth classed as soft and teeth classed as hard, and the impression upon my mind is that much of the difference in the hardness of the teeth as found in operating in the mouth is a matter of position, direction of cutting, and opportunity. Still, however, I am finding in practice that which appears to be very considerable differences in the hardness of teeth to cutting instruments. I am persuaded that in many cases men have mistaken for normal dentin, dentin softened by partial solution of the lime salts."

In discussing this question subsequently with Dr. Black your essayist asked him upon what grounds he based his opinion that the apparent differences in resistance to cutting instruments was due to lack of opportunity. He replied that in his experience he had found that the angle at which the instrument was held influenced largely the ease or difficulty with which the tooth tissue responded to it. For instance, in placing a chisel against a wall of enamel to break it down, it sometimes occurred that several hard blows of the

mallet would be struck without apparently affecting the tooth tissue in the least, but that the moment the angle of the chisel was slightly changed the enamel gave way under it with little pressure.

This fact has, of course, been frequently noted by all observant operators, and yet it does not seem to account for the many variations we find in resistance to cutting instruments. It relates more particularly to the line of cleavage of enamel, and has principally to do with the direction of the enamel rods. But in the actual drilling into sound tooth tissue in the extension of cavities or opening out of fissures, there is a marked and a very emphatic variation in the degree of resistibility manifested by the different teeth. Given two teeth standing in precisely the same angle in the mouth, with equal facilities for approach, and the operator armed with drilling instruments of uniform keenness, one will be found to present a flint-like hardness that blunts the drills or burs discouragingly with little penetration into the tooth tissue, while the other will admit the drill with slight exertion and grind up almost like a piece of chalk. The recognition of this clearly demonstrated fact in Dr. Black's original series of articles, and the explanation that it had no bearing on the question at issue, would have done much to disarm possible skepticism on the part of many observant operators.

But the main point of emphasis in the present paper relates to the supposed connection between the density of the teeth and the process of caries. That there is little or no relation between these two conditions seems demonstrated conclusively, and the sooner the profession awakens to a realization of this fact the better it will be for our patients. Thousands of useful teeth have in the past been consigned to the forceps on account of this fallacy, and thousands more will be unless the fallacy be recognized. Until the rank and file of the profession understand that decay of the teeth is a disease influenced by external conditions rather than by the inherent structure of the teeth they are not able to intelligently combat the trouble.

Let us assume a case for the purpose of illustrating the different lines of procedure in accordance with the different theories. One operator has presented to him a mouth in which decay of the teeth seems to be progressing rapidly. He believes from preconceived notions that the structure of the teeth is poor and that it is well nigh useless to try to save them. He patches them up in a half-hearted sort of way and tells the patient that the teeth are soft and

not likely to last long at best, and the patient feeling that the fight is all one way fails to take proper care of them. The result is that new cavities are formed and recurrences of decay take place around the fillings. The operator attributes the failure of his work to the defective structure of the teeth, and the patient yields up the issue and has the teeth extracted. This is the history of many a case.

Another operator, recognizing the true significance of caries, takes his patient vigorously in hand and proceeds on the theory that if the conditions surrounding the teeth can be controlled, the teeth themselves are of good enough structure to be saved. He impresses the patient with the importance of painstaking care of the teeth to the end that deleterious agents affecting them may be eradicated from the mouth. He lays great stress on cleanliness. Then he proceeds to his operations with great thoroughness, believing that he has in the teeth a sufficient structural foundation for permanent work, provided he can wall out the active agent of decay. He counsels his patient to apply frequently for examination of the teeth so that he may detect evidence of the disease in its early stages. In the very worst cases he keeps up a vigorous fight with the hope that the conditions of the mouth may change and modify the tendency to decay. And in many cases this very thing happens. We have all observed cases where the teeth have been decaying in a most discouraging manner for years despite our best efforts to combat the disease, when suddenly the mouth seems to become immune from caries and we are successful in ultimately saving the teeth. This immunity relates not to any structural change in the tooth tissue, but to a change in the conditions surrounding the teeth which renders the propagation or development of the microorganism of caries less favorable. We are never able to predict when such a change may occur, but the fact that it does occur should encourage us to make a supreme effort to save a patient's teeth even in the face of discouraging symptoms.

Just what is the nature of this change in condition we are unable with our present knowledge to indicate. If we could produce such a change by treatment, either local or general, we could go far toward preventing dental caries. And it remains for the future investigator to solve this problem. Dr. Black has indicated the lines on which a solution of the difficulty must be worked out, and in March, 1894, before his recent experiments in the physical char-

acters of the teeth had been made, I had written in the *Dental Review*, page 201, as follows: "We believe then that the problem of preventing dental caries must be worked out along other lines (than mere local treatment), and we have a suggestion to make as to what these lines shall be. It would seem patent, in view of the foregoing, that if we are to accomplish anything permanent in this direction, we must so change the *conditions* of the mouth that the microorganism of dental decay cannot exist therein. To attempt this may seem utopian, and we are not unmindful of the difficulty of the problem, but we are convinced that this is the only certain way out of the dilemma.

"When we speak of changing the conditions we refer to something deeper and more subtle than a mere chemical reaction. There are agencies at work affecting the life forces of the human economy, the nature of which we to-day know comparatively little. We may recognize an idiosyncrasy, but we are not capable of defining the causes which lead up to it. For instance, there are individuals in whose mouths caries is seldom or never seen, while there are others with teeth as well developed, and where even greater care is taken, who lose their teeth bit by bit despite the most persistent effort to save them. The logical conclusion seems to be that in the one case there is a subtle condition present in the mouth which militates against the active agency of the microorganism, while in the other the conditions are favorable to its development.

"At the present time we are wholly unable to distinguish between these two conditions—we can see only the results. But the time may come—and we trust it will—when we are able to recognize these conditions and treat the patient accordingly. The idea of vaccination for the prevention of dental caries would offer a most delightful topic for the newspaper humorist of to-day, and yet who knows what the future may develop? One thing seems certain—we must learn more than we now know regarding the conditions that are favorable or otherwise to the propagation of the microorganism of caries, and we must also learn how to modify these conditions before we can hope to successfully prevent decay of the teeth."—*Dental Review*, November, 1896.

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A STITCH IN TIME. By G. V. N. Relyea, L.D.S., Oswego, N. Y. Who is there in the dental profession that has not often

wounded himself? The left hand is generally the victim, as the right hand holds the instrument. These little mishaps are very annoying and troublesome, particularly if not immediately attended to. If it is a cut, and to any great depth, I allow it to bleed freely, as there will be less inflammation. I keep a fine needle, with a white silk thread in, well waxed. A small wad of bibulous paper saturated with 4 per cent of cocain is placed upon the wound, and a finger on the same hand can hold it there for ten minutes, after which it can be sewed as easily as if it were leather. It will heal by first intention. The parts being brought together, the bleeding will cease at once and you can resume work. This has saved me much pain, inconvenience, time and money.—*Dominion Dental Journal*, December, 1896.

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DENTAL JURISPRUDENCE, NEGLIGENT INFECTION.

By H. R. Wiley, A.B., San Francisco. The attention of the writer was attracted by a selection entitled "Dental and Medical Infection," in the November number of the *Pacific Stomatological Gazette*. It is safe to say that articles of the kind referred to will appear more frequently in the literature of the future than they have appeared in the past. Ordinary physiological facts and conditions are fairly understood by the people of the present. A close observance of the logical sequence of events necessarily results from present methods of education, and men are not slow to reason from a given effect back to the cause that is probably responsible for it. In the article referred to the author seeks to impress a knowledge of the grave risks to the patient attending the practice of medicine and oral surgery, rather than to deny those surrounding dental surgery.

However unjust may have been the charges stated in the case under consideration by the writer of "Dental and Medical Infection," the fact that more or less risk of infection attends the practice of surgery, whether dental or oral, is too well understood to need examples. Where proper precautionary measures are uniformly pursued by the surgeon the risk does not exceed the ordinary, and, under such circumstances, if a question arises calling for judicial determination a defendant dentist occupies a strong position, provided his evidence be forthcoming to prove uniform care.

Under the conditions last stated it would be impossible to secure a judgment against the defendant, unless it appeared from the

evidence that he had been negligent in that particular instance, and that by such negligence the injury was probably caused. In such a case proof that the defendant dentist had recently, before the alleged infection, treated some person affected with a like disease would have great weight against him. The mere absence in such a case of any other reasonable explanation for the presence of the symptoms, alleged by the plaintiff, would not be without weight in deciding the issue. Not that a decision against the defendant could be reached from the simple fact that no reasonable theory, other than that of his being the cause of the injury complained of, presents itself, or is presented to the mind of the judge or jury; but such a state of the evidence would seem to exclude other possible agencies, which, if they appeared in the evidence, might prevent the plaintiff from producing in the minds of the jury that degree of certainty necessary as a basis for a verdict.

Where the evidence discloses absence of scientific and uniform precaution on the part of the defendant relative to the matter of infection, it will be much easier for the plaintiff to make out his case. The negligence of the dentist would furnish an explanation of the injury so natural and convenient that it would be extremely difficult to divert the attention of the jury from that to any other theory of the case. The dentist must exercise due care, and should always be prepared with competent evidence to prove that he has done so.

So serious are the consequences possible or even probable, as the result of neglect by dentist or oral surgeon to disinfect his instruments, both before and after use, that we think a statutory penalty should be provided which might be enforced against a party, upon a proper showing, for every omission of that kind. It is not enough that the injured party should be allowed his remedy in damages for a wrong of that kind, but the offense should be made a misdemeanor. —*Pacific Stomatological Gazette*, December, 1896.

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GINGIVAL INJECTION FOR TOOTH EXTRACTION.

Analysis of a Thesis by Dr. Quere, of Bordeaux. Translated by William Rushton, L.D.S. Eng. During his two years of dental study Dr. Quere had been struck by the variation in intensity of the pain experienced by different subjects during the extraction of a tooth after the gum had been injected with a local anesthetic. He was

therefore induced to endeavor to solve the following questions: (1) What are the factors producing pain in tooth extraction? (2) Is it possible to abolish this pain, or at least to greatly lessen it by injections into the gum, and if so, what is the best means to obtain the maximum effect of the anesthetic employed? (3) Is there any local anesthetic which, without exposing the patient to any risk, will give results sufficiently satisfactory to warrant its use in dental surgery?

In reply to the first question, Dr. Quere, in addition to the physical factors of pain (namely the penetration of the forceps, the loosening of the tooth and its removal), lays stress upon the psychical factor of pain. This psychical factor is so considerable that it often produces a fainting attack before an extraction, this faintness being solely due to terror experienced by the patient. As regards the second question, in using the intra-gingival injection, Dr. Quere insists on this precaution, "That it is necessary that considerable resistance to the injection should be felt by the operator during injection." Numerous experiments convince him that one only obtains an anesthesia in proportion to the resistance felt during injection—*whatever the anesthetic employed*. This resistance produces a considerable ischemia (bloodlessness) of the gum, this ischemia being a valuable aid to anesthesia of the part.

When the gum is injected in this manner it is possible to obtain anesthesia of the *gum*, but the author declares that, no matter what anesthetic is used, *complete* anesthesia is never produced for the operation of tooth extraction. According to him it is impossible that a *local* anesthetic, which by its very definition (and experience justifies its definition) acts only on the parts which it touches, can anesthetize the vasculo-nervous tissues which extend between the bone and the tooth. Anatomically those tissues are independent of the gum; it is then absolutely impossible that an injection made in the gum can anesthetize these tissues. Dr. Quere therefore insists on this fact that no one can attribute to any anesthetic the power of abolishing all pain in tooth extraction.

There are cases in which no pain has been felt during tooth extraction following an injection into the gum, but these are in neurotic subjects who already possessed anesthesia of the maxillaries, or who were the subjects of suggestion. Suggestion can even go further, and the patient may be oblivious of any operation having been performed at all.

Local anesthetics in dental surgery act to a considerable extent upon the morale of patients, and the operator should always seek to utilize this moral influence. He should always induce the patient to believe that the injection which has made the gum insensitive will also make all pain of the extraction vanish.

What are the substances then which can be most strongly recommended for producing anesthesia in dental practice? Dr. Quere has successively experimented on sterilized water, sterilized oil, theobromin, caffein, antipyrin, cocain in different forms, eucaïn and guaiacol. To compare the analgesic value of these substances, the author has always injected them into the skin before injecting them into the gum. He thinks in fact that the skin is the criterion of local anesthesia. The result of his experiments is, that sterilized water never produces anesthesia; sterilized oil sometimes gives a certain amount of local anesthesia due to ischemia. Theobromin, caffein and antipyrin give an anesthesia sometimes pretty considerable in the skin. The most important experiments were with cocain and guaiacol. The conclusions Dr. Quere arrives at are (1) that cocain is much more dangerous in dental surgery than when used in any other operation, and (2) that it cannot produce any anesthesia in more than 80 per cent of cases of tooth extraction. He therefore comes to the conclusion that cocain is not to be recommended, as the risks are great and the chances of obtaining anesthesia small. (3) The substances derived from cocain, such as eucaïn and tropacocain, are no better than cocain. (4) That cocainized oil and cocain solutions used warm are in no way superior to the same strength of aqueous solution or when used cold. The experiments on guaiacol are not yet concluded, but after having made forty experiments the author draws the following conclusions: (1) Solutions of guaiacol in oil, 1 per cent, injected into the skin give about the same anesthesia as that of a similar preparation of cocain. (2) The injections do not cause pain. (3) In injecting into the gum they give about the same anesthesia as cocain. (4) These guaiacol injections are absolutely harmless. In his hands they have never produced the least scar. Guaiacol appears then in Dr. Quere's experience to be better than cocain in dental surgery, since in equal doses it gives results equal, if not superior to it, without letting the patient run the least risk.—*British Journal Dental Science*, December, 1896.

A PRECAUTION IN CATAPHORESIS. By L. E. Custer, D.D.S., Dayton, O. Some time ago, while producing cataphoresis with the Edison current, I could not account for a shock to the patient even while there was no current flowing through the shunt and presumably none through the patient. It was not until she was told to keep her hands from the arms of the chair that we were able to proceed. After the operation we investigated the cause and it was found to be due to a ground through the water flowing in the rubber tubing of the cuspidor. The fountain spittoon is attached to the chair, and while the metal base does not touch the valve on the floor there is nevertheless a ground through the water flowing in the rubber tubing.

Water is not a very good conductor of electricity ordinarily, but when there is a column of it three-quarters of an inch in diameter and but five feet long it is quite a good conductor—good enough to produce very undesirable effects in cataphoresis. During the application the current could flow through the resistance of only one lamp and from there through the patient to the cuspidor so that there was a flow of current which would not be registered on either the volt or ammeter. Now when the patient having the anode in the tooth touched the iron-work under the chair-arms she completed the circuit and received a shock.

Upon testing what voltage would be operative, it was found that almost one volt would be felt in this way. If the patient would keep the hand perfectly quiet the pain would gradually subside, but if she were to relax or alter her grip there would be pain accordingly. With some patients it is their habit to tighten their grip upon the chair-arm when pain is produced. Now while there would be about one volt pressure through the water in the tubing, had the base of the chair been in contact with the valve on the floor we would have had between forty and sixty volts, which we think would then and there break all connection between patient, chair and operator. The current which would flow through the patient in the above instance would be a direct current and not a shunt current and the pain would be largely increased on that account also.—*Ohio Dental Journal, December, 1896.*

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TREATMENT OF THE DENTAL PULP. By W. A. Siddall, D.D.S., Cleveland, O. Read at Northern Ohio Dental Society,

June, 1896. The number of pulpless teeth that the dentist is called upon to treat ought to make him stop and consider very seriously the subject of the dental pulp and its treatment. As dentists grow older in practice and experience they sometimes forget that those younger than themselves are forced to learn by experience alone what might have been learned from a freer discussion of some of the more important practical questions. Not long since the writer had a case in practice, in which the six anterior superior teeth had been filled with gold by an excellent operator, and the fillings were all standing beautifully, but in five of the six teeth the pulps had died and three of the teeth were badly abscessed. When we see such a case as that it should cause us to stop and consider whether we are doing all that we can to preserve the life of the pulp.

Let us briefly review the reasons why it is wise to save the pulp, if possible. (1) For beauty. Especially is this the case in the anterior superior teeth, for in spite of your efforts at bleaching and treating, there is an opacity to any pulpless tooth which mars the beauty. (2) To prevent a greater liability to an incurable disease. (3) To promote longevity of the tooth. We know that a pulpless tooth is more brittle than a live tooth, and while perhaps not more liable to decay, it is much more liable to suffer from fracture.

Why is it that we have so many patients come to us with swollen faces and aching teeth, due to the death of a pulp? Well, you say that "the patient came to me with a pulp nearly or quite exposed and I did the best I could with it, but it died in spite of me!" I grant that there are many such cases, but I am afraid that they are not the only ones in which the pulp dies. A great many times the trouble is the direct result of careless and unskillful work. Sometimes I am startled to see the direction of a pit or the depth of a groove in a cavity that has been previously filled. There is nothing in dentistry which requires more skill and thought and good judgment than to properly place anchorage for a filling without danger to the pulp—to be able to tell where the pulp is in a tooth and to so place anchorage that the filling will not be injurious to the life of the pulp, requires the greatest judgment.

There are so many things to be considered—the age of the patient, the density of the tooth, any peculiar shape of the tooth or cavity. We must look out for any unusual location of the pulp or unusual length of the horns of the pulp. I believe that there are a large

number of pulps sacrificed unnecessarily by a lack of care and judgment in the preparation of cavities. It is not so much from a lack of knowledge on the part of the dentist, for certainly enough has been said about lining cavities, and good methods enough have been proposed for the purpose. I say it is not so much from a lack of knowledge, but rather from a lack of application.

There is no question but what the use of hot air in connection with a certain medicament for sensitive dentin, a few years ago, resulted in the death of a good many pulps, and we should be careful to know what effect any new treatment for the same purpose may have on the pulp. No doubt many pulps will be sacrificed by the use of cocain and cataphoresis. It is often a difficult thing to diagnose an exposed or nearly exposed pulp, and especially is this so when the dentin is insensible to pain. I would not underestimate the value of a method whereby the dentin can be desensitized, but would urge that unusual care be exercised in its use. Whether cataphoresis will prove to be detrimental to the welfare of the pulp remains to be seen, but certainly unless great care is used many pulps will be destroyed by its use.

The object of this paper being more for the purpose of calling attention to this subject in a general way than to offer any specific method of protecting the pulp, the writer will briefly outline some of the best modes of pulp protection. (1) I would protect the pulp by impressing upon the mind of the patient the importance of submitting to a frequent examination of the teeth. Those of you who have the best control of your patient have the fewest pulps to cap or destroy and the fewest abscesses to treat. (2) I would protect the pulp by a careful and skillful manner of preparing cavities. (3) By the use of some non-conducting lining where necessary. For this purpose tin-foil, varnish, chloro-percha and gutta-percha are all valuable.

Tin-foil I have used a great deal under amalgam filling and believe that it is a very valuable thing, and under gold we all know that it is a good thing. Oxyphosphate of zinc cement has never seemed to me to be particularly good for the purpose. Whether there is in the acid something which is detrimental to the life of the pulp I do not know, but it seems to me that I find a good many pulps which have died under cement fillings or linings.—*Ohio Dental Journal*, December, 1896.

CASE OF ALVEOLAR ABSCESS DISCHARGING INTO THE ANTRUM. By W. Buzzell, D.D.S., Port Clinton, O. Read before same Society. In June, 1892, a young woman came to me to have some teeth extracted. She told me she had been suffering for some time with severe pain in the left cheek, which was much swollen. I found a fistulous opening into the antrum, between the second bicuspid and first molar, through which a thin watery pus was discharging. The teeth on that side were all present except the third molar, and all sound and alive except the first bicuspid, which had been devitalized, the root-canals having been filled some years before. She said she had never felt any inconvenience from it since it was filled, and I found no tenderness on percussion. Hence I excluded this and thought it to be a catarrhal condition of the antrum.

I treated it for a few days by injecting peroxid of hydrogen, followed by a thorough washing with "Dobell's Solution":

R	Carbolic acid	-	-	-	-	grs. xxiv.
	Biborate soda	-	-	-	-	
	Bicarb. soda	-	-	-	-	a a grs. xl.
	Glycerin	-	-	-	-	fl. oz. ij.
	Water	-	-	-	-	O j.

Under this treatment the troublesome symptoms soon disappeared; the discharge ceased apparently, and I dismissed the case and allowed the sinus to close.

About six months afterwards she came again with the same trouble, and insisted on my extracting some teeth; in particular the second bicuspid, which was decidedly sore and somewhat loose, though sound and alive. Even at this time the devitalized first bicuspid had given no evidence of guilt. I made an opening into the antrum, at the site of the original fistula, and a large quantity of thin pus escaped. I treated as before for some time, but at each sitting pus was in evidence. At last I did what I should have done in the first place. I drilled longitudinally through the defective first bicuspid and found that I could insert a probe nearly an inch and a half, and that liquids injected into the antrum passed freely through the opening in the tooth. I extracted it, washed the cavity with peroxid of hydrogen and followed it with "Dobell's Solution." The wound closed in a few days and there has been no further trouble.

I have thought this case worth bringing before you, for it shows

the necessity of thoroughness in root filling and the danger of needlessly and uselessly extracting valuable teeth, and therefore emphasizes the need of accurate diagnosing and warns against hasty procedures in obscure cases.—*Ohio Dental Jour.*, Dec., 1896.

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DIABETES MELLITUS. By Dr. M. Karolyi, Vienna. Translated from "Oesterreichisch-Ungarische Vierteljahrsschrift für Zahnheilkunde." Madam G., 49 years of age, married and the mother of two children, came to me in May, 1895, complaining of pains in the first right upper molar, and stated that they had been present for two days. The examination revealed diff. periostitis, with slight swelling about the tooth in question, which, otherwise intact, was not affected with caries. The lady had been my patient for four years, but her fine set of teeth required only the occasional removal of tartar. But as the *status quo* did not exhibit the pure symptoms of periostitis, I dismissed the patient after making an incision in the slightly swollen fluctuating buccal side, directing her to call again in a couple of days, in order that I might get a clear idea of the cause and the course of the disease.

Two days later the process had become much worse. There certainly were no special pains present, but the alveolus of this particular tooth was almost entirely purulent; the gingiva had retreated considerably and possessed a ragged appearance; the fixture of the tooth had been reduced to a minimum, so that I was able to remove it without any difficulty. I requested the patient to call on the third or fourth day in order to glean perhaps further information respecting the unusual appearance presented by this case of periost. diff. ac. She did not call, however, until the fifth week after the extraction, and informed me that she had had a bad time; that she had been obliged to keep to her bed, as the wound would not heal, and that the doctor attending upon her considered that she had been infected with an unclean instrument.

There was no need to reassure her as to the supposed infection, as she herself had already told the young colleague treating her that, so far as her dentist was concerned, such a thing was impossible. I put a few questions to her on the supposition that, having regard to the long process of healing, I had before me a case of diabetes mellitus. Her answers were not conclusive, so I requested her to bring a sample of urine. On the next day I made a test, the result of

which confirmed my supposition, namely, *sugar was easily demonstrable*. I referred her to a specialist, whose analysis proved the presence of 6.5 per cent of sugar in the urine. In June the patient went to Carlsbad for the cure, in October she died with the usual symptoms of diabetes mellitus.

I have shortly sketched the case, first, in order to draw the attention of my colleagues to similar occurrences, and second, because I have not met with cases of this sort in dental literature.—*Ash's Circular, December, 1896.*

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ANCHYLOSIS OF THE TEMPORARY MANDIBULAR JOINT. By Mr. William Hern. Before the Odontological Society of Great Britain. He related the particulars of a case of this kind in a rather diminutive lad, aged 12, first seen about four or five years ago. The lower jaw was small, undeveloped and practically fixed to the upper, and the one could not be separated from the other for more than an eighth of an inch. The upper jaw was fairly developed and had marked protrusion of the incisor teeth. There was no history of injury to the face or jaw. After mechanical treatment for about six months, feeling that little could be expected of it, Mr. Hern, when the boy's dentition was completed in May last, consulted his colleague, Mr. Bland Sutton, who advised the removal of both condyles of the mandible. The boy came into the hospital in August last and Mr. Sutton commenced the treatment by removing the right condyle, with the result that after the operation the boy could open his mouth over an inch; he had since been able to masticate all kinds of food. There was one very curious thing in connection with the case, namely, the marvelous development of the platysma muscle.

Mr. Bland Sutton said cases of undeveloped mandible had interested him for a good many years, and bearing in mind the tradition of surgery, he had never felt disposed to perform any operation for them; but when he wrote the article on diseases of the jaw for Mr. Treves' "Surgery," he made up his mind that if ever another case came before him he would at once operate and deliberately take out both condyles. Mr. Hern asked him to see the boy, and he came to the conclusion that the left half of the jaw was undeveloped, although the right half was fully developed; the jaw was so firmly ankylosed that by no manner of means could the patient get his

mouth open, and he used to stuff his food in with his fingers, much as a schoolboy would fill a popgun. The parents were quite willing to have the operation carried out, and he started with the intention of removing both condyles. He made an incision down to the jaw where the condyles should be, and to his astonishment came on a solid pier of bone, as thick as his thumb. Neither the condyle nor the place where the joint should be could be distinguished, but there was a thin narrow chink out of which fibrous tissue projected. He detached the solid pier of bone, and then cut a piece out half an inch broad completely across it. The facts of the case might be fairly well stated by saying that the ascending ramus of the jaw on the right side was practically represented by a solid pier of bone, half an inch square, firmly ankylosed to the temporal bone. Having cut that piece of bone right through, taking care not to damage the nerve or artery, the patient's jaw was forced open with a powerful pair of forceps, and to his (Mr. Sutton's) astonishment the whole jaw began to move, and he discovered that there was a perfectly good condyle on the opposite side. For a few days there was a little trouble with the wound, a good deal of oozing coming from the under surface of the bone, but after four or five days the patient was perfectly happy. The etiology of the condition was one which had exercised him a good deal, and he thought the most reasonable cause for a lateral ankylosis of that sort might be possibly explained by an injury to the temporo-mandibular articulation with the point of forceps during delivery. An injury at the time of birth might go on very slowly, and ultimately induce in young children an ankylosis such as had been described.—*Dental Record*, December, 1896.

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THE ILLINOIS DENTAL LAW. By W. J. Phillips, D.D.S., Elgin, Ill. Read before Northern Illinois Dental Society. Some time since I had occasion to look up the statute governing the practice of dental surgery in this state, and was amazed at the inadequacy of the law to protect the public from incompetent and dishonest persons. Not only is the public imposed upon by such charlatans, but our profession is brought into disrepute and the less discerning portion of the public learns to distrust dentists in general. The statute as it now stands provides that at the present time any one must procure a license of the State Board of Dental Examiners before commencing the practice of dentistry.

However, a person holding a license may be the nominal proprietor of a dental office and hire on a salary or percentage, or take in partnership, anyone whomsoever he will, who need not be legally or in any other way qualified to practice, and yet by his association with the licensee he receives the protection of the law in conducting an unprofessional and many times a dishonest business.

Now this condition of things is, of course, well known to you all, and probably everyone of you has thought more or less on the subject and will agree with me that some remedial legislation should be had which will change for the better the present state of affairs.

I am well aware that there are many men in the practice of dentistry holding licenses from the state whose professional ideas are very degraded and from whom nothing that would tend to elevate and ennoble our calling could be expected or had. These cases are of course hopeless, as you cannot legislate honor into them. But added to this number are two to four times as many who are engaged in aiding these sharks to fleece those whom their extravagant advertisements draw to them.

It seems to me that this class might be held in check somewhat by proper legislation. As to just what should be added to the present dental law, your individual opinions might and probably would differ.

A suggestion would be to add a section to the statute as follows: "No person acting as an assistant or copartner shall perform operative dentistry, including the taking impressions of the mouth, unless such person holds an individual license from the State Board of Dental Examiners."

We know that legislation in this direction has been attempted and thwarted by the class of unscrupulous persons alluded to, but it seems to me that the object sought is of so much moment that another attempt might be made, and perhaps with united action success might be attained.—*Dental Review, December, 1896.*

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ODOFORM IN DENTAL PRACTICE. By Louis Ottofy, D.D.S., Chicago, Ill. Read before same society. Iodin is an important element. In its various combinations with other elements, such as potassium, mercury, etc., it is one of the most important of the medicaments in common use. It is not necessary to mention before

this society its many well recognized properties. In its most active form, that of the crystal, it unfortunately possesses many undesirable qualities. Chemists have, therefore, been active to present it in a form which, while possessing the virtues, is devoid of the vices. The best substitute so far produced is the much maligned drug so well known to us—iodoform.

I have been much interested in the study of a contribution to literature by Dr. Med. A. Schirmer, the German editor of the *Schweizerische Vierteljahrsschrift für Zahnheilkunde*, reviewing the history of the so-called "iodoform war," and have taken the liberty to quote extensively from the article referred to.

This drug depends for its virtues on iodine, which is simply in a form suitable for handling, by having some of its objectionable qualities concealed, and by being presented to us in a form which makes it applicable to tissue and in situations where the crystals could not possibly be employed.

When it was first employed in surgery, under the impression that it was an antiseptic, its admission to the surgeon's arena was hailed with delight, and notwithstanding its objectionable features it soon became extensively employed as a supposed antiseptic in surgical operations, especially where large surfaces upon the body had been destroyed by disease or removed by the surgeon's knife, as also in gynecology. Eventually its toxic effects were noted, as well as the fact that erythematous eruptions and eczema frequently followed its application, and these two objections, with that of its extremely disagreeable odor, often leading to gastric disturbances, were sufficient to precipitate what became known as the "iodoform war."

The study of bacteriology then developed the fact that iodoform was absolutely worthless as an antiseptic, that in fact in one marked case the preponderance of evidence led to the conclusion that disease was transmitted by its use. And it was an anomalous discovery which disproved this. It was shown that certain bacteria not only were not destroyed, but that they actually lived and thrived in good iodoform for at least one month. The claim was then set up that iodoform was not an antiseptic in the then ordinary accepted sense, but that the successful use of it in practice, which was readily admitted, and which could not be explained, justified the surgeon in continuing its use.

All this controversy, however, led to an attempt to replace the

drug by one which was free from objectionable features. The chemist flooded the market, for commercial reasons, while the surgeon, in the hope to get something as effective but free from objections, encouraged this activity.

As a result a large number of substitutes have been presented to us. The principal object to be attained is, to get the combination of elements, so as to contain a large percentage of iodine. If we remember the fact that iodoform contains an exceedingly large percentage (96.7) of this element, we can somewhat account for its powerful action; and at the present day it seems that the virtues of iodoform, as exhibited by the iodine when set free, are due to this large percentage, and that the attempts to produce a satisfactory substitute are abortive, for the reason that nothing has as yet been produced which would yield the same results if it did not contain as much iodine, and when it did undesirable effects were also sure to accompany its use. There are probably other reasons as well, which may be merely referred to by the statement that the results are probably due to the different manner in which the iodine is given off.

Among the most important substitutes placed upon the market as a result of the controversy are the following: Jodol, aristol, loretin, europen, nosophen, soziodol, dermatol, airol, and as an indication that none of these seem to fully fill the requirements and that the attempts to produce something are desperate, I might mention the fact that some German investigators have recently placed upon the market a preparation whose German name is diiodosalicylsäuremethylester, but wisely they have also given it the chemical name of sanoform. None of these contain the same proportion of iodine as iodoform. The most powerful of them, iodol, contains 88.9, or about 7.6 per cent less than iodoform. Nosophen contains 61.7, while europen with only 27.6 and airol, 24.8, do not seem worthy of rank with iodoform as an iodine conveyer. It would also seem perfectly reasonable that the objections raised against it cannot readily be overcome in preparations of such low percentage.

There is no doubt that much of the controversy regarding the therapeutic values of iodoform is due to an entire want of knowledge regarding its action, and at present the nature of the process is wholly unknown. The simple fact, however, always stares us boldly in the face, that this drug possesses exceedingly valuable

properties—virtues which make the surgeon hesitate in discarding it, and which have led to a return of its use after an unsatisfactory acquaintance with each new substitute was made.

Iodoform is an indifferent body, and it is known that its action is entirely different from that of other antiseptics. Thus it requires to be first decomposed before it can become active, and the most recent investigations seem to prove that this decomposition takes place most readily when processes of reduction of animal matter are in progress. The worse the ulcerated surface the better and prompter the action. In addition to this, the most recent discoveries seem to be convincing and reveal an important fact hitherto certainly unrecognized, and one which clears up many hazy points, namely, that the decomposition of iodoform, and the consequent liberation of iodine, takes place most actively in the presence of living albumen and alkaline fluids. Now then, if in connection with this fact we remember that iodoform is not at all a destroyer of pathogenic microorganisms, we can account in some measure for its peculiar action. In other words, in the presence of the living alkaline circulating medium, the blood, and albumen, its action is most powerful. The diseased surface may be covered with microorganisms, but under the free and active liberation of iodine further reproduction of them ceases; while on the other hand, in the laboratory, in gelatin, agar-agar, and other media and iodoform, the most beautiful crop of pathogenic microorganisms may be cultivated. The value of such experiments, then, is as nil when compared to the application made to a living body. In addition to this I might call attention to the fact that it has been determined that iodine is freely absorbed by living protoplasm.

With this enlightenment, the determination to adhere to the use of this drug, notwithstanding its advantages, on the part of the surgeon, is readily explained. Aristol has quickly followed iodol into comparative retirement, with dermatol and airol not far behind; it is true that these preparations have their value, but their use is confined within much narrower limits than was anticipated at the start.

As stated before the action of iodoform is unknown. It is unknown whether the products resulting from the decomposition of iodoform act directly on the bacteria, or make their multiplication harmless; or whether the action is on the tissues, by the penetration

in sleep; perhaps with cramp. It is easy enough to say it is due to acidity. But is it? Is it? It is, alas, a fringe of disease that no garment seems to match. There are many other affections of the teeth, too, that we do not know much about. There are the ground down teeth with tableland tops. These have been called gouty, and I think they are more often found in people of that habit. Then there is a condition of brittleness of the teeth—a good-looking tooth that will suddenly crack and go to pieces in a week or two. Then there are some whose teeth will ache and decay; and there are others whose teeth decay and never ache. There are cases of extreme decay in children that we assume to be due to ill health of some sort, but of what sort it would be difficult to say precisely. And going with the teeth, one may just mention the nails to say what an instructive fringe of disease is there. Only a few days ago I saw a man who had lost all his finger nails, apparently by the aggressive action of some part of the matrix that had grown up and buried them. What was it? But while I am on the subject of the teeth there is another ailment of the mouth that one meets with from time to time and which I should be only too glad to know more about both as to its cause and the best means of treating it. I allude to ulcerative stomatitis in the adult. Ulcerative stomatitis in the child and in the adult are quite different things, for while in the child it is easily cured, I doubt if anything has much effect in the adult in the form I have in mind. It crops up periodically in certain people, and having run its course it dies away again. The disease I allude to is characterized by the more or less sudden appearance upon the tip and edges of the tongue and on the lips and inner surface of the cheeks of a number of small superficial ulcers, often with a yellowish pellicle upon their surfaces. I have seen it spread over a great part of the mucous membrane of the mouth and to be attended in some cases by considerable swelling of the tongue. But as a rule, the ulcers are more or less scattered and are chiefly characterized by their soreness. No doubt this is what some call herpes of the mouth. The feature of the disease seems to me to be that it is a part of the life-history of the individual, for it returns again and again in the course of years and is a very painful and inconvenient malady. If any idea of a cause is formulated it is usually "stomach." But I can confidently affirm that in many of these cases it is hard indeed to make out any derangement

of these chemical products into them, thus destroying the field of operation of the bacteria.

I am fully aware of the fact that much opposition exists among dentists to the use of this drug, but I have been so firmly wedded to it for more than ten years that I cannot discard it and I have tried every substitute ever offered. While the surgeon has the toxic effect and other disadvantages to contend with, in dental practice there is but one objection, and that is the odor; and that objection is a relative one, and in my opinion and experience can in a great measure be overcome by the proper and careful, confined and limited use of the drug. I use it in the treatment of exposed pulps, putrescent pulps and root-canals in combination with essential oils, preferably eucalyptol.

In all these conditions I do not depend upon it entirely, but as one of the important agents, especially as the final agent in the process of therapeutics I depend upon it implicitly. Thus, in root-canal filling, the canals are filled with an essential oil and iodoform at the sitting just preceding the final filling, and while I do not aim to make even a part of the root-filling of iodoform, I have no hesitancy to allow some to remain in the root, or to force part of it through the apex of the root.—*Dental Review, December, 1896.*

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THE FRINGES OF DISEASE. By Dr. James F. Goodhart. Take, now, another quarter of the fringe of disease. The other day a dental surgeon sent me a patient with receding gums. He was reported to have said that there was too much acid in the system and that the patient must see a physician, for which I thank him. But when she came to me, oh! how I wished I were other than I am—that I were a man who could be satisfied with that view of the question, and could set to work with good heart, or better, good conscience, to neutralize the acid by its equivalent of alkali. Ah, that equivalent! I daresay many of you have heard the late Mr. Corney Grain on the fashionable physician; how, as part of his dietetic treatment, he had been ordered to take a tenderly dressed mutton chop or its equivalent, and how he had been tearing about the town and worrying all his friends to find out what is the equivalent of a tenderly dressed mutton chop. And what is the equivalent of receding gums? I have worried over it for years and yet have no idea. I think it goes with dreaming sleep; with the grinding of the teeth

Catching's residence, where he had in operation one of the most powerful X-ray apparatus in the south. At the appointed time an interested group of spectators gathered to watch the working of the wonderful X-ray. The patient was placed in such a position that the rays from the apparatus would shoot down by the nose, through the lip and bone and around the suspected tooth. A strip of photographic plate, especially prepared by Mr. Motes, and wrapped in a piece of black paper, was placed in her mouth, and the cathode ray allowed to remain on it for one minute. The development of the plate was anxiously awaited, and when at last it was completed it showed with great distinctness the malposed tooth imbedded in the jaw in just such a position as Dr. Catching had diagnosed. The cuspid was trying to force its way out, and in doing so had destroyed one of the young lady's front teeth.

This experiment is the first one in which the X-ray has been used as a means of finding a malposed tooth embodied in the jaw.—*Southern Dental Journal*, December, 1896.

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HEREDITARY SYPHILIS DETECTED BY THE TEETH.

By E. H. Williams, M. D. The cases in which there is positive proof of primary syphilitic infection (practically 75 per cent of all cases) form such a majority that the small number of cases in which the history of such infection is lacking is generally ignored. The typical "man of the world"—ambitious, fond of society and high living, a light sleeper and a deep drinker—forms so characteristic a picture of the forerunner of the deplorable "paretic," with his delusions of grandeur, that we usually overlook a minor number of cases that present at first few typical symptoms and whose past history may be different in many respects from that of the majority of cases. If such cases are examined it will be found that many of them, while having no history or proof of direct syphilitic infection, do bear unmistakable marks of hereditary syphilis—usually shown by the presence of Hutchinson's teeth. These cases are often obscure, even to the alienist, in the beginning, and the diagnosis is not facilitated by the lack of a characteristic syphilitic history.

I have found that in about 70 per cent of cases of general paresis, in which no history or evidences of primary syphilitic infection could be found, there were evidences of hereditary syphilis in the teeth. In fully 60 per cent of these cases there was no history of excessive

of the stomach, and the most careful dieting fails to prevent a recurrence. I think that on the whole, treatment by quinine is the most successful, but as I have said, I am by no means sure that it does not run a course of its own uninfluenced by any drugs. Then there is the so-called ringworm of the tongue; what does it mean? Does it mean that if you could peer inside and see the mucous membrane at work in the life that you would see the same curious serpiginous eruption rippling over the surface of the stomach and intestine as it may almost be said to do over the surface of the tongue? Erythema of the tongue it might well be called, for, like the erythema on the skin, it is full of irritating mystery, the which if one could unravel who knows but that one could find the key to many a physiological riddle. And, by-the-by, before I pass away from the teeth and the mouth, may I say that if only dentistry and physiological chemistry would combine, how much good work there is yet to be done upon the *saliva* of these several conditions that are supposed to be due to acidity and what not. More than once as I have sat in that ominously comfortable dental chair, and have heard and seen the salivasyphon at work, I have endeavored to stimulate my friend to a recognition of what good material was being wasted. One cannot but think that the systematic examination of the saliva from various groups of cases might give us a good deal of information, positive or negative, upon several obscure conditions of the juices. I do not think the subject has ever been worked at yet from this point of view, but I will make a present of the suggestion to those whom it may seem to appeal to.—*The Lancet*.

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CATHODE RAY FINDS A TOOTH. For the first time in Atlanta, says the *Constitution*, of that city, the X-ray has been used in making a diagnosis of an interesting case in Dr. Catching's practice. These are the particulars: Some time ago a young lady patient consulted him about a loose upper front tooth. An examination of the mouth showed a perfectly sound set of teeth, with the one exception in question as loose as a child's tooth about to be displaced by a permanent tooth. No reason could be given for the condition except that one of the cuspids had never come into place, and the trouble was attributed to this wandering tooth.

This peculiar case presented a chance for the surgical work of the X-ray. Arrangements for an examination were made at Dr.

dissipation, although almost to a man they had been addicted to the use of alcohol, and sometimes to an excessive degree. In 90 per cent of these cases there were men of anything but the "paretic type"—men of rather sluggish mentality, with corresponding habits. —*Medical Record, December, 1896.*

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PYORRHEA ALVEOLARIS FROM A NEW STANDPOINT.

By William H. Trueman, D.D.S., Philadelphia. In a paper read at the last meeting of the Kentucky State Dental Association, Dr. Junius E. Cravens, accepting the theories of Dawbarn and Greene, modifies the treatment of pyorrhea alveolaris suggested by him in a treatise two years ago, and now recommends a treatment closely resembling that of Thomas Berdmore, a distinguished dentist of London, which was published in 1770.

Dr. Cravens' treatment is this: After removing all deposits from the affected roots he lacerates or even tears away the granulation tissue within the pockets, then applies an astringent stimulant of acidulated nature. This is followed, after a sufficient time has elapsed for granulations of repair to be well set up, by an astringent stimulant of a more pronounced and permanent effect. The object of this treatment is to establish *scar tissue*. He assumes that pyorrhea is a periostitis, and advances the name *alveolar periostitis* as proper and fitting for this affection. The cure of periostitis, he says, demands the establishment of scar tissue, vide Dr. Dawbarn in the "Reference Hand-Book of Medical Science" and Greene's "Pathology and Morbid Anatomy."

Berdmore says: "The treatment is partly medical and partly surgical. The former consists in removing the disease of the whole body by a due course of medicine, and in washing the mouth frequently with antiseptic and astringent liquors rendered slightly acid by means of orange, lemon or sorrel-juice, or vinegar. The surgical treatment consists in scarifying and pricking the affected gums and destroying their tender outer skin in such a manner as to occasion a fresh shooting forth and elongation of their substance, and such a solidity as will endure the usual impressions of mastication. When the gums have lost their connection with the teeth, or when they do not embrace them closely, cutting a small slip away from the fore part is of considerable service, for the new gum will then adhere to the tooth, or at least embrace it more closely." He

recommends the use of opiates, camphor and nitrous ether to remove or mitigate pain, recognizes the importance of thoroughly cleansing the teeth of all deposits, and states that scarifying may have to be frequently repeated, noting an instance of five or six operations in one case where "The incisors of both jaws were entirely naked to the extremity of each root;" very loose or carious teeth are to be extracted.

Robert Wolfendale, a student of Berdmore, writing in 1783 disputes the curability of extreme cases, recommends the use of astringent lotions, removal of tartar and, before the disease has reached the incurable stage, the lancing of the gums, sometimes daily for a fortnight; in case of great thickening of the gums considerable portions should be cut off. He claims that it is *usually* curable so long as there remains imbedding the roots of the teeth enough tooth-supporting tissue to securely hold them; that to restore disordered tissues to health is all that can be expected. He further says that when root exposure is occasioned by accident it will frequently be readily restored by nature, generally without the assistance of art, but when the exposure of the smallest part is the consequence of adhesion of tartar, of the scurvy, venereal affection, or the imprudent use of mercury, he never saw the least disposition of the gums to grow to the teeth although assisted by scarification, or stimulating, balsamic, astringent or any other sort of washes or applications. Jourdam, 1778, says: "Those who think they have made cures by scarification, etc., by cautery, issues and the like have confounded this with suppurative fungus of the gums alone."

These remarks of more than a century ago are similar to those made in a discussion of this subject to-day. Then, as now, it was a much debated question whether these disorders were merely local, or wholly or in part systemic. Writers of the present time would probably be surprised to see their productions in parallel columns with those of men who lived before the century began. When the men of to-day think that the disease is becoming more frequent, is the outcome of modern ways of living or the result of imperfectly performed dental operations, they probably do not know that a century ago it was so prevalent, so intractable, so productive of tooth loss, that it was called *devastation of the teeth*. Hayden, in 1822, says: "This disease, from the nature and extent of its ravages, as great or more so among the opulent and rich as among the poorer

classes of society, has at different times engaged the attention of some of the most skillful physicians as well as professional dentists in Europe, and in the course of treatment they have pursued they have severally resorted to every means for its cure that medical skill could suggest * * * notwithstanding which, their efforts have proved ineffectual."

The profession has been unsettled regarding this disease from its earliest mention to the present day. Much time and labor has been spent in rehabilitating discarded theories, or in the effort to supplant one unsatisfactory theory by another. Fauchard was inclined to reject the theory that certain diseased conditions of the system were the cause of it. Dr. Trueman's impression is that this is the position of the most of the profession at present.

The points upon which there is the least controversy are:

1. It is a disease seldom appearing until the patient approaches middle life. While exceptions to this have been frequently noted, they are, however, infrequent and exceptional, and have been so recognized.
2. It is not, at the onset, usually accompanied by any marked systemic derangement.
3. It usually begins insidiously, runs an uneven course, and is prone to relapse.
4. It always ceases completely and permanently when the teeth are lost.

The close physical resemblance and the very marked pathological differences between pyorrhea and that acute inflammation of the gums due entirely to systemic conditions, known as stomatitis, has already been noted. Stomatitis at its height resembles pyorrhea at its worst, so far as it affects the oral cavity. Stomatitis, however, is a disease of childhood, pyorrhea of mature age. It is very probable that the oral symptoms linking together stomatitis and pyorrhea are alike due to germ infection, the sudden and violent onset in stomatitis being due to quickly developed conditions favoring germ activity, and the rapid subsidence in mild cases, it has been explained, is due to violent inflammation proving fatal to germ life. In severe cases so violent is the inflammation that gangrene with all its attendant seriousness not infrequently supervenes. In adults the gums are not so responsive to systemic disturbances, nor yet do slight disorders of the nutritive functions, as in early childhood, so

quickly or so profoundly affect general health. Under these conditions stomatitis becomes far less frequent and far less serious. It still, however, preserves its well marked characteristics distinguishing it from pyorrhea alveolaris, and these may have value in determining the cause and character of the latter disorder. Dr. Trueman is strongly impressed that, after all, pyorrhea alveolaris is merely a germ infection. It may be serious, involving a large territory and incurable, or slight and easily controlled, just in proportion as the oral conditions favor or repress germ activity. How far the general health may affect these conditions we have, as yet, but little reliable data. The pathology of stomatitis is suggestive upon this point. We may bear in mind that for the germ to become a pathological factor three things are necessary: (1) the germ; this, however, is omnipresent; (2) a dwelling place; (3) congenial surroundings. In stomatitis the disturbed circulation, due to the primal lesion resulting in the swollen gum margins, furnishes over a widely extended territory abundant opportunity for germ colonies, and the surroundings seem particularly favorable to germ activity. Disordered digestion in the child and in the adult seems to produce in the oral cavity conditions especially favorable to germ growth. In proof of this the furred tongue, for ages recognized as a reliable and delicate indication of gastric disturbance, is now known to be due to the presence of germ life—a form of germ life that immediately disappears when the stomach resumes its normal condition.

In early life, while the gum-tissues firmly embrace the teeth and fully occupy the dental interspaces there is little opportunity for any form of germ-life to obtain a permanent foothold. Later, however, when normal changes materially alter this condition of affairs, when the saliva becomes more loaded with inorganic matter, when there is a more marked disposition to tartar deposits, when the gum-tissues relax their firm embrace of the teeth and as a result debris-collecting spaces are formed along the gum margins and between the teeth, when, in addition to all this, as the natural result of normal wear and tear and the inevitable loss of tooth substance, the gum and tooth-supporting tissues become more and more exposed to violence and accidents of various kinds during mastication, etc., we readily see how, in a thousand and one ways, opportunities for germ infection are vastly increased—all without the slightest assistance from any systemic disorder. The natural secretions of a

healthy human mouth are the most potent of germicides, as indicated by the majority of healthy persons breathing the germ-laden dust of a large city. It is only when the germ finds a convenient place in the mouth, or when the potency of the secretion is temporarily impaired that it gets in its work. The changes in the oral secretions account for the changes of the disease; its always-present effects invite relapse until the absence of teeth destroys its favorite camping ground.—*International Dental Jour.*, Dec., 1896.

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AMPUTATION OF THE DENTAL PULP. By Dr. H. Siegfried, of Vienna. Every dentist who gives root-treatment any considerable attention, and in these days of conservative practice the large majority do, has learned with what difficulty pulps are extracted from bicuspid and molars. And it not infrequently happens while treating narrow or winding pulp-canals that the contents are not fully removed. In order to avoid the uncertainties accompanying these operations, as also to evade the tediousness of the work, the idea presented itself to amputate the pulp. Doctors Weitzel and Herbst have for some years been occupied in this study; and later Dr. Baume with his specific has claimed the consideration of the profession, but the method he recommended did not fully insure success. The Sublimate-Thymol treatment of Dr. Miller demonstrates even greater progress in this direction.

Through theoretical enlightenment I arrived at the conclusion that, in the practice of amputation—thus far fruitless—one might employ pulverized coal. Formerly we used pulverized coal in connection with cotton in the filling of root-canals (Foerberg), but the coal serves me in advance of this, in that I employ it in root-amputation.

It is a known fact that coal has the property of allaying gas-formation, primarily those gases which are formed in the process of decomposition of organic substances. Ammonia and sulphur, according to Binz, are completely held in limitation or stabilized in the presence of pulverized coal. In consequence of this fact I conclude that coal would make an efficient root-canal filling material. In the event of gases forming, subsequent to the coal-filling, they would be easily stabilized through the benign influence of the coal, thus preventing escape of the gas through the apical foramen, and so avoid inflammatory processes.

The coal has, aside from this latter property, a direct antiseptic or anti-putrefactive power. If water be placed in jars whose inner walls are lined with pulverized coal we find that the water remains clear for a considerable period. Fresh cadavers which are buried in pulverized coal do not suffer putrefaction, yet they waste away, leaving nothing save the osseous and fatty portions, while the coal is saturated with saltpetrous acid. These truths have inspired me to engage this powder in the filling of root-canals. To increase its antiseptic properties I add a small amount of thymol. After applying arsenic to the tooth in question I seal it tightly with cement. After a lapse of twenty-four to forty-eight hours, having adjusted the rubber-dam, I remove the arsenical application; then I prepare the cavity, amputate the pulp and prevent serious bleeding by washing the cavity with sublimated spirits. I now fill the pulp-chamber with the dust-fine pulverized coal (linden-wood), adding some thymol. I next cover the filling with gutta-percha and immediately proceed to insert the desired permanent filling. This method I resort to in the treatment of bicuspsids and molars, while in the treatment of the anterior teeth I prefer extirpation of the pulp, since the operation is less difficult and there is less likelihood of discoloration of the enamel.

I have, in company with Dr. Metzke, practiced this particular method nearly a year, during which period we have treated about 250 cases and have not been compelled to record any unfavorable consequences. This latter result leads me to believe that this method of procedure will warrant commendation. Even third molars, suffering from former pulpitis and incurable on account of the inaccessible position, are saved by the foregoing described process. This treatment will appeal to all, especially those in the army service, who cannot afford the necessary time and expense accompanying extirpation of the pulp.

It will afford me great pleasure to learn that others in the profession are employing my method and I hope to hear of like favorable results.—Translated by Dr. B. J. Cigrand, from *Deutsche Monatschrift fuer Zahnheilkunde*, December, 1896.

* * *

THE ROENTGEN RAY. By William Lincoln Smith. The discharge between the poles of a static or influence machine is apparently the same in all its length; a series of photographs, as those by

Trouvellot, taken in perfect darkness, will reveal a very distinct and characteristic difference between the two, according to which pole the discharge was derived from. It is only by photographs the difference can be detected. This discharge can be deflected, momentarily, by passing the poles of a magnet near to it. If the discharge is sent through atmosphere at a diminished pressure, or greater or less vacuum, it is at first of the ordinary thread-like form. With an increasing vacuum it begins to broaden, approaching more nearly the form of a glow extending through the tube, the light becoming paler, finally reaching a point where we get what we might call billows of light running from one terminal to the other. The point of interest does not lie in the breaking up of the discharge, but in the difference which begins to appear between the two poles. Supposing the discharge made from the anode or positive pole, passing across to the cathode or negative pole, of aluminum wire one thirty-second of an inch in diameter, at the very tip of the one pole there would be a very brilliant star-like point, at the other pole the discharge is more evenly distributed over the whole surface of the wire, not appearing to touch the wire. There is a small space of absolute darkness in the midst of the glow around the pole in which nothing has been discovered by photography or other known methods. The higher the vacuum is increased the larger does the dark space become; a complete vacuum would fill the whole tube with darkness in some cases. When the dark space is extended enough to include both terminals, the tube becomes apparently impervious to the electric spark. To produce the desired result an apparatus has been devised so arranged that both poles are situated in the vacuum-tube within half an inch from each other; then the two electrodes are connected with a spiral tubing at points just before they enter the vacuum-tube, and the path around through that spiral tubing from one electrode to the other is something like two and one-half yards, while the distance across it is about half an inch. Though electricity takes the path of least resistance, it will pass through the tubing rather than from pole to pole in the vacuum-tube, because both terminals have their tips in the dark space.

Phenomena of the electric current shown in vacua and not in the open air are: Firstly, the disappearance of all effects from the anode; secondly, the dark space around the cathode was enormously extended; thirdly, the so-called cathode rays were produced

—that is, when the discharge was allowed to pass from anode to cathode, apparently there were produced at the cathode another set of rays which traveled and passed in straight lines, and once deflected by the magnet did not return to their original path. It was found that certain substances exposed to these rays became luminescent. Professor Hertz discovered that films of gold, silver, platinum or copper if thin enough were transparent to the cathode rays. Dr. Lenard, of Bonn University, found that the cathode rays glowed in open air for a distance of eight centimeters, that substances would luminesce outside as well as inside the tube, that the rays would not traverse any great distance and they were deflected by the magnet outside the tube. Roentgen found that the tubes deteriorated unless kept in darkness. Having covered a tube with black paper he noticed that a piece of platino-barium-cyanide paper near the tube glowed. In developing a photographic plate afterward, he found not only the picture he was working for on it, but also the image of a little brass spring on the plate-holder. The plate in its holder was standing up near the tube at the time when he noticed the paper glowing, in such a position that the spring was between the plate and the tube. As he had made no provision for the exit of the rays from the tube, he knew that the plate had been affected by an invisible agent. It was not long before he announced that substances hitherto considered opaque were transparent to the effects of an unknown agent which he called the "X-rays."

While he could make no positive statement as to the exact manner in which they were produced, he declared they could not by any possibility be cathode rays: first, because the Roentgen rays can never be deflected, the most powerful magnetic fields having no effect in turning them from straight lines; second, the Roentgen rays travel enormous distances, whereas the cathode rays do not reach more than eight centimeters.

The point on the tube where the cathode rays struck and produced their brilliant green luminescence was apparently the source of the rays, but that question has not been settled; it is now accepted that Roentgen rays as produced at the first point intercept the cathode rays.

The best results in photography are obtained from the static-influence machine driven at a high frequency, allowing the spark to pass through the tube from anode to cathode, and under certain

conditions (which are not to be published until the system has been thoroughly tried); when it is wired in a certain way very much more powerful effects are obtained than in any other way.

The photograph, however, is open to certain objections; it requires time to take and develop pictures; secondly, it furnishes a permanent record, which is not wanted, and may not prove to contain what you are looking for, so that it is not quite so satisfactory as examining the object itself.

Mr. Edison has made this possible by the invention of the fluoroscope. The photographs are not to be compared to the pictures. In the picture of the hand not only every bone and its joints, but when properly adjusted, the cartilage, the folds in the skin, the lines of the cords and sometimes the nerves, are seen with wonderful clearness. The diseased portion of the lungs of a person in consumption has been traced out, being distinguished by its absolute opacity. A case of enlarged spleen has shown up quite satisfactorily; you can see the liver rise and fall and determine the exact position of the organs within one-sixteenth of an inch; you can just see the tip of the kidney which is apparently more opaque and denser; the liver rises and falls in front of it as the patient breathes; you can see the ribs which look like the boards of a gate; you can see the spine with its many joints; you can see the sharp definition of the teeth as they run down into the jaws, and the limits of a filling in a tooth.—*International Dental Journal, December, 1896.*

A SOLVENT FOR GOLD AND SILVER—Which owes its efficiency to the presence of potassium cyanid, is claimed by Johnes Atkins, and is produced by heating a dry mixture of one part of potassium ferrocyanid with about two parts of salt to incipient fusion. The product is poured into molds, and is quite stable in the air. For use it is dissolved in water.

X-RAYS AND SIGHTLESS EYES.—In our editorial columns of a previous issue we deprecated the idea of holding out to the blind any strong hope of their being made to see by the X-rays. We have always had the greatest confidence in Mr. Edison's wondrous powers and magic-like achievements, but in the present case we did not feel that he was justified in calling forth hopes which could, in most instances at least, if not in all, result only in disappointment. In a recent number of the *Electrical Review*, Nikola Tesla found little ground for any claims of making the blind see. The rays have not been demonstrated to be transverse vibrations, and at best refraction would be necessary to project a sufficiently small image upon the retina. As it now is, only a shadow of a very small object can be so projected.—*Med. Record.*

Letters.

NEW YORK LETTER.

NEW YORK, January 14, 1896.

To the Editor of the Digest,

MR. EDITOR:—Again we are called to note the demise of one who was best known to us—Dr. I. A. Salmon, of Boston, an upright man and one that you felt better for having met. Everything that he did had the stamp of integrity upon it, and his mallet and chair brought him well-earned repute. He was from the first one of Dr. Atkinson's most earnest admirers and supporters. His lectures at the beginning of the Harvard Dental School were examples of simple practice effectually presented. His cheerful smile fell acceptably on all. At the age of 67 he has ceased from his labors, but his works follow him.

Another well-known practitioner in Washington, Dr. Wordsworth, will be missed from his familiar place. For forty years he stood at his chair dispensing a grade of ability which bordered a little on the old school, yet he liked the atmosphere of the modern. We last met him on the streets of his city, accompanied by his favorite hunting dogs. Our first meeting (where we also met the remarkable practitioner, Dr. Maynard) was at the convening of the Maryland and District Societies. Dr. Wordsworth took us all over Washington in his carriage and then to his home to dine. His wife was a charming woman and had helped him much.

At that time he had President Grant for a patient and he called our attention to the president's teeth and mouth, for Riggs' disease was there and it followed him to his grave. We say here, as we have said before, we think that if he could have had his mouth treated then as he could now, he need not have had that awful affliction, the cancer. Although Riggs' disease may "have been known and treated in 1700," it has since then stolen a march on many a victim, and perhaps the "dead march" of more than might be supposed. The teeth are a greater indication of health or disease than many, even of the medical fraternity, believe. Dr. Bodecker tells us that he noticed such a marked change some three years ago in the teeth of Professor Heitzman that he showed him the importance

of making an examination, but the learned doctor pleasantly laughed it off.

We learn that Dr. Bodecker has a son at Ann Arbor who expects to graduate this year. He is a promising young man and expects to become his father's successor. Dr. Bodecker has been an incessant worker and has built up a large and lucrative practice. It is marvelous how much time he has put besides into his microscopical labors. He tells us that Dr. Heitzman and he had extensive plans laid out for studying the development of teeth. It took some time to perfect their plans and secure the necessary specimens, and now, just as they had succeeded, the scheme is aborted, since Dr. Bodecker thinks his health will not allow him to engage in the undertaking alone. We trust that this diagnosis of his health and his prognosis will not prove true, for he is too young and too valuable a man to step aside yet.

We note a remark in a recent journal that dentistry of all professions should not be practiced for God's sake. We can hardly agree with this, for the more a practitioner works outside of himself the better his chances are for a life productive of an enjoyment which will outlast anything gained in the self life.

The "Great Expectations" is at hand and it speaks for itself—the new *Items of Interest* is original in matter and design, and is in most excellent taste. The new editor has a corner of his own from which we expect to see much of interest, as he is a literary as well as a scientific man.

All the mean men are not dead yet. Think of a multimillionaire keeping a dentist out of his bill seventeen months and then being brought to court, and after arguing some time he steps up and gives his check for the amount (\$200), less the costs, and when the check was presented at the bank it was returned—"no funds." Finally, after several promises to make it good he allows himself to be sued for non-payment. This seems hardly grateful to a faithful dentist. The only remedy seems to be a cash basis, for if we do not do quite so much, we are at least sure of pay for what we do.

By common consent Dr. Williams' paper and illustrations before the Odontological Society are judged to be the ablest ever presented before any body of dentists. As those present said, it needed no discussion; it was a demonstration of facts. It dealt with predisposing causes, active causes and structure. Miller and Black were

strongly sustained. It is thought that the etiology of the decay of teeth is at last solved. Dr. Williams was accorded high position among scientists on all hands. His full explanation of how misleading ideas may be formed by optical delusions made a decided impression. He did not know of Dr. Heitzman's death until he reached this country and read of it in the *DIGEST*. In the opening of his paper he paid a warm tribute to his late antagonist. Altogether the whole occasion was a fitting anniversary of the society, and a hearty greeting was given to the many guests present, among whom were Harlan, Black, Darby, Kirk, Bogue, Allen, Burchard, McQuillen, McManus, and dozens of others. The aftergathering of a social nature was fully up to date and complete in every detail. All who spoke were happy in their remarks and complimentary to their guest, all of which was feelingly acknowledged by Dr. Williams. Dr. S. G. Perry was the poet of the evening. He seems to be untiring in his versatility and certainly he made no "mistakes" in this effort. The bringing of Dr. Williams to this country and all the arrangements reflect much credit upon the committee, which begins with W. W. Walker and ends with Jarvie and Perry. Success is the best evidence of success. Cordially, NEW YORK.

TO REMOVE CEMENT.—A piece of wet pumice-stone will remove cement from the mixing slab with neatness and dispatch.—*Geo. M. C. Barnard.*

HOW TO STERILIZE INSTRUMENTS WITHOUT DANGER OF RUST.—Iron, steel and nickel rust only when exposed to the combined action of carbonic acid, moisture and oxygen. If any one of this triad is absent or neutralized the metal remains unaffected. Certain alkalies neutralize the carbonic acid in water, and when this is neutralized no rust forms on metals when immersed in it. After careful experiments, Levia has found that the best alkali for the purpose is natrium hydroxydatum causticum (NaOH). He adds a small quantity of the crystals to boiling water, and after they are entirely dissolved and mixed, he immerses the instruments and boils them *ad libitum*, with never a trace of rust nor tarnish when they are taken out. One-fourth of one per cent, or even less, of the natrium is sufficient, but it must be pure, with no sulphur, as this causes rust. If knives and scissors are wrapped in gauze to protect the edges, they can be effectively sterilized in this way without the slightest injury of any kind. It is equally effective and non-injurious for drainage tubes, etc., but is not adapted for aluminum nor silk and it softens brushes. If the instruments are left afterward wet and exposed to the air, rust will form, but they can be kept several hours, if necessary, in sterilized water to which 1.5 to 2 per cent of the natrium has been added.—*Wein. klin. Rundschau.*

The Dental Digest.

PUBLISHED THE

TWENTY-EIGHTH DAY OF EVERY MONTH.

Editorial.

OUR LOSS THE NATION'S GAIN.

Lyman J. Gage, president of the First National Bank of Chicago, has been informally offered the position of Secretary of the Treasury, and has decided to accept that office if appointed, so he will undoubtedly be chosen. No one in the country could be more fit for the place, and we feel that President-elect McKinley is fortunate in being able to secure so valuable an acquisition to his cabinet. However, the Dental Protective Association suffers a loss, for, as the members at least know, Mr. Gage is the treasurer of the association. He very kindly agreed to serve in that capacity when the association was first organized, although he was overwhelmed with business and civic cares, and has always done anything he could for it cheerfully and readily. The thanks of the association are due to Mr. Gage, and we are confident that the gratitude and good wishes of the members will go with him.

* ORIGINAL INVESTIGATION.

Much has been said and written about original investigation and the great need of more of it, but there are few members in the present ranks of the dental profession who are willing to make the exertion and sacrifice necessary to success in this department. And what is still more unfortunate, there are but few who have the kind of ability necessary to take the lead in making original investigations, the results of which can be relied upon and accepted as facts.

For these reasons, when a well-known authority gives us such an array of facts and heretofore unthought of conclusions as we find in the papers of Dr. Black on the question of amalgam, also on what he has called the "physical characteristics of the teeth," we wonder why such a man is not enabled by his profession to give all of his time and ability to original work. And why do we not do this? Dr. Black should have furnished him all the equipment needed and be employed by his profession that we may get the benefit of his genius while he lives. This subject is not new—we have

been urging publicly and privately for many years that when such talent is found it should be engaged and the services well paid for by our profession.

The first plan which suggested itself to us was that it could be managed through the American Dental Association, and it was with this end in view that we organized a plan whereby that organization, instead of being in debt, as it was each year then, has accumulated in a few years from its annual membership fees several thousands of dollars. Some of this money has been expended to advantage in section work, but neither the plan of expending the money in section work nor the section work in general has proved a great success. But we did not start out to discuss failures.

Studying these reports of Dr. Black's, as published in the *Dental Cosmos* during the year, has again filled us with the desire to see a move made which will give the profession the benefit of all Dr. Black's time for research and experiment. The paper on the physical characteristics of the teeth may not prove of as much practical value as that on amalgam, yet the more it is studied and understood the more important it becomes. The investigations of amalgam as a filling material are certainly of inestimable importance. With the instruments for making the various tests and the information gained from Dr. Black's long and arduous labors we and many others have been able to obtain a knowledge of amalgams which cannot be overestimated. It is not our intention to discuss at this time in detail either of the published papers, but we wish to solicit some plans and opinions of the same which will enable Dr. Black to continue his researches and compensate him well for what must be a great outlay of time and money. Our pages are open for a free discussion of this important subject.

Book Reviews.

ARTIFICIAL ANESTHESIA—A Manual of Anesthetic Agents and their Employment in the Treatment of Diseases. By Lawrence Turnbull, M.D., Ph. G., Aural Surgeon to the Jefferson Medical College Hospital, Philadelphia; Late Honorary President to the Otological Subsection of the British Medical Association, and of the Section of Laryngology and Otology of the American Medical Association. Fourth edition. Revised and enlarged, with

illustrations, 1896. Published by P. Blakiston, Son & Co., 1012 Walnut street, Philadelphia, Pa. Price \$2.50.

This is a convenient hand-book for the dentist or physician, on the selection and administration of various anesthetics. It also gives a complete history of all anesthetics from their discovery to the present time, and some space is devoted to the manner of administration abroad. To quote from the author, his object is:

"1. To give in as concise a manner as possible a description of the most available agents that may be successfully and safely employed as anesthetics.

"2. To present the chief chemical tests, the purity of each substance considered with its composition, physical characters and medical properties.

"3. To exhibit the best methods of administering the various anesthetics, to give careful directions and to state the precautions to be taken to avoid risk to the life of the patient.

"4. To note the personal experience of the author, his assistants and friends, with anesthetics and the various forms of inhalers in use, with a selection of the most approved, not withholding, however, the objections, but noting the experiments of other reliable investigators.

"5. To compare the relative mortality for all the anesthetics now employed, endeavoring to assist the reader in forming a fair and candid opinion of this most important subject, which has for so long a period occupied the attention of the public as well as the medical profession."

Notices.

ODONTOGRAPHIC SOCIETY OF CHICAGO.

At the annual meeting, held December 14, 1896, the following were elected officers: President, Geo. B. Perry; Vice-President, G. W. Schwartz; Secretary, H. H. Wilson; Treasurer, Edmund Noyes. Member of Board of Directors, W. H. Fox. Board of Censors, E. K. Bennington, Chairman; A. G. Johnson and H. J. Goslee.

H. H. WILSON, Secretary.

ST. LOUIS DENTAL SOCIETY.

Following are the officers for 1897: President, John H. Kennerly; Vice-President, P. H. Eisloeffel; Corresponding Secretary, John G. Harper; Recording Secretary, C. C. Cowderly; Treasurer, A. J. Prosser; Committee on Ethics, J. H. Pfaff, J. G. Harper, William Conrad. Committee on Publication, F. F. Fletcher, W. M. Bartlett, DeC. Lindsley.

ALUMNI ASSOCIATION OF NEW YORK COLLEGE OF DENTISTRY.

The annual meeting of the Alumni Association of the New York College of Dentistry was held at Dr. Z. T. Sailer's office, 40 West Thirty-third street, New York City, January 13, 1897. The following were elected officers for 1897: President, F. A. Chicherio, '88; 1st Vice President, A. M. Dailey, '90; 2nd Vice President, G. W. Baab, '88; Secretary, F. T. Hannemann, '91; Treasurer, Z. T. Sailer, '80; Curator, F. J. McLaren, '87; Executive Committee, Edward Fox, '88, Chairman; F. Van Blascum, '88; H. R. Armstrong, '94.

F. T. HANNEMANN, Secretary.

CHICAGO COLLEGE OF DENTAL SURGERY.

The dedicatory exercises of the new buildings of this college took place on Friday evening, December 4, 1896, when speeches were made by Dr. Truman W. Brophy, W. M. Lawrence, D.D., Judge Richard S. Tuthill, Dr. John B. Hamilton, Prof. M. P. Thomas, of Lake Forest University, and Dr. C. N. Johnson.

Dr. Brophy, the dean of the college, opened the exercises with a brief address in which he touched upon the growth of the college and of the history of dental education in the city of Chicago. He said the Chicago College of Dental Surgery was the first institution of its kind in this country to introduce and use for the benefit of its students a complete apparatus for the cultivation of bacteria, thus demonstrating the active agents that cause caries of the teeth and methods for effecting their destruction. The institution was the first to organize freshmen students into classes for practical work in dental technology, both operative and prothetic. In addition to these innovations in teaching, clinics were organized in the college and conducted for the benefit of the senior students by the most skillful and successful practitioners. Realizing the necessity of securing a permanent location for the college, in 1888 the lot was purchased upon which the building now stands, situated on the corner of Wood and Harrison streets. The first section of the structure was erected in 1893, and the first course of instruction began in it November 1 of that year. Beginning with the present year plans were perfected and the building of 1893 has been doubled in capacity, so that the college now consists of a six-story structure, having a frontage of 85 by 120 feet. Each floor contains an area of 10,080 square feet, divided in accordance with suggestions and plans made after having carefully examined the best regulated dental schools in the United States, thus enabling the faculty to incorporate the most modern features in its construction. Dr. Brophy then traced the growth of the college from the summer of 1883 up to and including 1895-'96. The faculty of 1883 consisted of three, matriculates eighteen, and no graduates. In the session of 1895-'96 the college has eighty-seven teachers and five hundred and three matriculates.

The next address was delivered by Dr. W. M. Lawrence, who said that he knew of no similar history along educational lines anywhere. He had the honor to be somewhat connected with the Chicago University and its growth had been phenomenal, yet, at the same time, he could say pretty accurately that the figures given by Dr. Brophy proportionately exceeded any statistics which we might have the pleasure of presenting for the contemplation of the citizens of Chicago. He congratulated the faculty on having erected such a fine structure.

Judge Tuthill was the next speaker and said that when he was a boy people never had their teeth attended to, so that every old man and old woman must have been toothless; that they went out of the world in about the same condition as to teeth that they came into it. At that time everyone seemed to think it was the normal arrangement and that people when they got old had no business with teeth. He believed that nothing had been done in medicine or surgery that had so added to the happiness of mankind as the work that had been done by skillful dentists.

Professor Thomas followed Judge Tuthill. He was glad to see evidences that the Chicago College of Dental Surgery was not simply growing in extent, but becoming a genuinely progressive institution, an institution which is adding not simply to numbers in its faculty and students, but to its curricula, to its enlarged and advanced requirements, an institution which means a better educational product, men who are better able to do the special work to which they are called and to which they are devoting themselves by virtue of the broad, generous culture which the college was giving them.

Dr. John B. Hamilton, professor of principles and clinical surgery in Rush Medical College, was the next speaker. He said that we were apt to think, in the clamor of a jubilee, that everything was modern with which we had to do; that we forgot the filled teeth of the mummies and the Aztecs, and the specialism which existed in the old Alexandrian school. Coming down to modern times we could congratulate ourselves that after a long period of darkness the revival of dentistry was due to America. In 1887, when he was executive officer of the first international medical congress held in this country, the question of the representation of dentistry as a distinct section came up, and after due consideration it was decided to give full accord to the dental profession in that congress the same as to any other branch of medical science. It was greatly to the credit of this country that this was done, as America had reaped the benefit of it. The French government sent a representative over here to inspect and investigate our dental colleges and to report to his government as to their condition, and what he thought of our method of teaching; and this report, by Dr. Kuhn, of Paris, on the dental art in the United States, was, in the opinion of Dr. Hamilton, one of the most comprehensive reports ever published on the subject. At the same time the report was most flattering, in that the author stated that European dental colleges could in no way compare with those in the United States. Dr. Kuhn spoke particularly of the Chicago College of Dental Surgery, but which at that time was under different auspices from those at present. The Philadelphia Dental College was particularly mentioned. After citing the different conditions that prevailed in dentistry in foreign countries and comparing them with the dental colleges in the United States, he (Kuhn) framed a bill, to be presented by the Minister of the Interior for transmission to the French Chamber of Deputies, with a view to procuring a charter for a dental college in Paris that would compare favorably with American dental colleges. No higher praise could be accorded American dental colleges than the compliment paid to them in this report.

As to Dr. Evans, Dr. Hamilton said he was more than an ordinary practitioner of dentistry; he was foremost in the sanitary work of the Franco-Prussian war. The so-called American ambulance was the creation of Dr. Evans. Dr. Evans left his patients, went to the front, organized an ambulance service, and while French surgeons were busy caring for the wounded Evans was busy with the ambulance corps in organizing general hospitals in the rear; and the story of the services of that noble, illustrious man in the Franco-Prussian war was enough of itself to elevate the profession to which he belonged to a high place among the sciences and the educated men of the world.

Dr. C. N. Johnson in a brief speech said the first dental college was established in this country in 1839, but it was difficult to get at the curriculum of that college at that time. The number of teachers and students at the opening session was four. Dr. Johnson then dwelt upon the importance of educating the public to a proper appreciation of the practice of dentistry. He said that the laity needed education along this line. The people should be taught that the highest aim of dentistry was to add to the comfort, the longevity, the physical beauty and the happiness of the human race.

At the conclusion of Dr. Johnson's speech the students, faculty and invited guests repaired to one of the spacious operating rooms, where refreshments were served and short timely speeches made by Drs. W. C. Barrett, A. W.

Harlan, Thomas L. Gilmer, W. L. Copeland, Mr. C. G. Morrell and Dr. L. L. Skelton.

Excellent stories were told by W. Woodruff, the Arkansas humorist; Opie Reed, the well-known author; Mr. Richmond, the well-known journalist; W. B. Lockwood made a short speech, and Dr. C. N. Johnson recited a poem entitled, "Our Quarrel."

Dr. R. B. Tuller was called upon to sing a song, but instead he asked the audience to join with him in singing "Auld Lang Syne," which they did, and then quietly dispersed.

PROGRAM OF CHICAGO DENTAL SOCIETY CLINIC.

MONDAY MORNING, February 1, from 9 till 12 o'clock, at the Northwestern University Dental School, corner of Franklin and Madison streets (five blocks walk west from the Palmer House, then one block north).

1. Dr. E. K. Wedelstaedt, St. Paul, Minn. Mesio-occlusal Amalgam Filling. Demonstrating the Use of Cavity Measurers or Instruments for Measuring Cavities.
2. Dr. John S. Marshall, Chicago. Surgical Clinic.
3. Dr. S. H. Guilford, Philadelphia, Pa. Method of Starting a Filling Outside of the Cavity with the Aid of Matrices.
4. Dr. B. J. Cigrand, Chicago. A Method of Mounting Gold-cusps on Broken-down Bicuspid and Molars.
5. Dr. W. C. Wendel, Milwaukee, Wis. A Crescent Crown.
6. Dr. E. H. Allen, Freeport, Ill. Gold Filling.
7. Dr. W. G. A. Bonwill, Philadelphia, Pa. a. The Vast Use of Pink Gutta-Percha in the Successful Practice of Dentistry. b. Illustrating and Demonstrating some Practical Points (Truths) in the Art of Filling Teeth with Amalgam *vs.* so much so-called Science in Dentistry.
8. Dr. L. E. Custer, Dayton, O. The Dangers of Commercial Currents in Cataphoresis.
9. Dr. Edmund Noyes, Chicago. A Platina Gold Incisor Corner.
10. Dr. W. R. Clifton, Waco, Tex. Bleaching Discolored Teeth with 25 per cent Solution of Pyrozone by Cataphoric Application.
11. Dr. L. P. Haskell, Chicago. Porcelain Work.
12. Dr. G. V. I. Brown, Duluth, Minn. Treatment of Pyorrhea Alveolaris.
13. Dr. W. H. Taggart, Chicago. Carving Porcelain.
14. Dr. G. H. Wilson, Cleveland, O. Staining Porcelain Teeth.
15. Dr. B. D. Wikoff, Chicago. Dr. Wikoff will Prepare and Imbed in Plaster of Paris a Number of Freshly Extracted Teeth, and Visitors to the Clinics will be Requested to Fill Roots on the First Day in Any Manner they Consider Advisable. On the Second Day the Root Fillings thus made will be Exposed to View.
16. Dr. E. H. Angle, St. Louis, Mo. Regulating Appliances and Their Adjustment.
17. Dr. J. Austin Dunn, Chicago. Guides to the Entrance of Root-Canals in the Bicuspid and Molars in Different Cases.
18. Dr. W. E. Griswold, Denver, Col. New Means for Support for Partial Plates, and a Gold Filling Inserted in an Artificial Tooth by Means of Blow Pipe.
19. Dr. R. G. Richter, Milwaukee, Wis. Distal Cavity in Superior Second Bicuspid or First Molar. Using Soft Foil and Matrix, Cohesive Foil Finish.
20. Dr. W. W. Walker, New York, N. Y. The Immediate Separation of Teeth.
21. Dr. Frank Abbott, New York, N. Y. The Opening, Treating and Immediate Filling of Pulpless Teeth.
22. Dr. A. H. Peck, Chicago. A Special Point in Root Filling.
23. Dr. L. W. Lyon, St. Paul, Minn. A Satisfactory Amalgam Filling.
24. Dr. C. E. Esterly, Lawrence, Kan. Porcelain Crown with Band. A New Method.

25. Dr. C. P. Pruyn, Chicago. Treatment of Alveolar Abscess.

26. Drs. F. B. Noyes and William G. Stearns, Chicago. Microscopical Exhibit.

MONDAY AFTERNOON, February 1, at 2:30 o'clock, in the main lecture-room of the Northwestern University Dental School, corner of Franklin and Madison streets (six squares walk from the Palmer House).

1. Address: "Recent Improvements in Filling Teeth," by Dr. G. V. Black, Jacksonville, Ill.

2. Paper: "Sensitive Dentin," by Dr. G. F. Cheney, St. Johnsbury, Vt. MONDAY EVENING, February 1, at 8 o'clock, at the same place.

1. Paper: "Heredity," by Dr. T. L. James, Fairfield, Iowa.

2. Paper: "Peculiar Pathological Perceptions," by Dr. J. D. Patterson, Kansas City, Mo.

3. Report: "Three Pathological Cases," by Dr. I. P. Wilson, Burlington, Iowa.

TUESDAY MORNING, February 2, from 9 to till 12 o'clock, at the Chicago College of Dental Surgery, corner of Wood and Harrison streets (from the Palmer House walk one block south to the corner of State and Adams streets, and take Harrison street car which passes the doors of the college building).

27. Dr. J. B. Monfort, Fairfield, Iowa. A Method of Replacing a Broken Facing on a Bridge or Richmond Crown.

28. Dr. Charles W. Jones, St. Paul, Minn. Cataphoresis.

29. Dr. T. W. Brophy, Chicago. Exhibition of Surgical Cases, and Surgical Clinic.

30. Dr. J. E. Cravens, Indianapolis, Ind. Treatment of Pyorrhea Alveolaris.

31. Dr. A. O. Hunt, Chicago. Practical Exhibition of Facial Restoration by Artificial Dentures.

32. Dr. M. L. Hanaford, Rockford, Ill. A Proximal Gold Filling in an Incisor, Using Semi- and Cohesive Gold, and Working from Under Surface.

33. Dr. W. V-B. Ames, Chicago. The Combination of Precipitated Gold and Oxyphosphates.

34. Dr. C. R. Baker, Davenport, Ia. The Articulation of Crowns and Bridges.

35. Dr. J. Y. Crawford, Nashville, Tenn. Gold Filling Demonstrating the Use of Non-cohesive Gold.

36. Dr. W. W. Moorehead, Aledo, Ill. Anesthetizing of Pulp for Immediate Removal by Cataphoresis.

37. Dr. C. S. Case, Chicago. Obturators and Regulating Appliances.

38. Dr. K. B. Davis, Springfield, Ill. Proximal Gold Filling in Bicuspid Using Harris' Mallet.

39. Dr. J. G. Reid, Chicago. Root Filling.

40. Dr. G. D. Sitherwood, Bloomington, Ill. A Suitable Equipment for Making Any Kind of Crown or Bridge with Practical Demonstration.

41. Dr. C. N. Johnson, Chicago. Contour Gold Filling in Upper Molar.

42. Dr. R. H. Kimball, Chicago. Gold Filling.

43. Dr. H. T. Smith, Cincinnati, O. Proximal Filling with Plastic Gold.

44. Dr. B. D. Wikoff, Chicago. a. Porcelain-faced Crowns, Showing Successive Steps on Models. b. Exhibition of Root Fillings made February 1.

45. Dr. P. H. Morrison, St. Louis, Mo. Amalgam Filling, Platina-gold Lining.

46. Dr. S. F. Duncan, Joliet, Ill. A Method of Attaching Bridges to Anterior Teeth Without Amputation of Natural Crowns.

47. Dr. C. A. Southwell, Milwaukee, Wis. Mesio-occlusal Gold Filling. Electric Plugger. Rowan's Gold.

48. Dr. F. F. Fletcher, St. Louis, Mo. A Method of Using Porcelain Teeth in Bridges Without Tipping Grinding Surface.

49. Dr. Henry Barnes, Cleveland, O., and Dr. L. P. Bethel, Kent, O.

Cataphoric Use of Silver Nitrate in the Treatment of Chronic Alveolar Abscess.

50. Dr. J. Prendergast. Microscopical Exhibit.

51. Dr. J. H. Woolley, Chicago. Hot Air a Failure in Desiccating Root-Canals Prior to Filling. With a demonstration.

EXHIBITS.

1. By Dr. S. B. Brown, Fort Wayne, Ind. A metallic oxid known as "Enamel Restorer." For restoring polished surface on the natural teeth, where the enamel is defective, grind out the superficial defects, smooth the surface with Arkansas stone, then use the enamel restorer, with water and Moose-hide point. Ground surfaces on artificial teeth are polished in the same manner.

2. By Dr. W. G. Clark, Cedar Rapids, Iowa. Removable Porcelain Bridge.

3. By Dr. L. W. Lyon, St. Paul, Minn. Parts of Crowns in Different Stages of Construction.

4. By Dr. T. G. Wonderly, Galena, Ill. Sectional Impression Cups.

5. Dr. G. W. Schwartz, Chicago. Full Upper Porcelain Bridge.

6. Dr. G. V. Black, Jacksonville, Ill. Office Conveniences.

7. Dr. C. N. Trompen, Chicago. Appliance for Holding Back the Rubber-Dam at the Angle of the Mouth During Operations.

8. Dr. T. D. Shumway, Plymouth, Mass. Gold and Tin Combination Gold Filling, Showing Method of Union of the Two Metals.

TUESDAY, February 2, at 12 o'clock, noon, in the lecture-room of the Chicago College of Dental Surgery.

1. Paper: "A Basis for a Code of Honor Among Dentists Everywhere."

By Dr. W. G. A. Bonwill, Philadelphia, Pa.

TUESDAY EVENING, February 2, at 6:30 o'clock. Annual dinner in the banquet-room of the Palmer House.

LIST OF LATEST DENTAL PATENTS.

572,310. Charles O. Perkins, Petaluma, Cal. Handpiece for Dental Engines.

573,133. Arthur W. Browne, Prince's Bay, N. Y. Dental Chair.

573,361. George W. Schwartz and B. J. Cigrand, Chicago. Dental Furnace.

574,025. Harry A. Edgecomb, Mechanic Falls, Me. Dental Plugger or Mallet.

574,031. George E. Hakens, Norwood, N. Y. Dental Disk-Holder.

574,033. Merrill W. Hollingsworth, Philadelphia, Pa. Appliance for Bleaching Teeth.

574,012. Joseph M. Strout, Portland, Me. Dental Matrix Carrier and Retainer.

574,763. Flavel A. Rudolph, Carmi, Ill. Dental Tool.

574,877. F. W. Blomley, Sioux Falls, S.D. Adjustable Dental Mouth-Mirror.

575,108. William H. Duddy, Boston, Mass. Dental Napkin Clamp.

575,629. John C. Blair, Louisville, Ky. Fountain Spittoon.

575,610. Philip S. Malcolm, Portland, Ore. Tooth-Powder Receptacle.

575,407. Louis Wirsching, New York City. Veterinary Dental File-Carrier.

News Summary.

THE CAUSE OF WARTS.—Mechanical irritation of the papillæ is thought by Schaal (*Archiv fur Derm. u. Syph.*, Bd. xxxv., H. 2) to be the cause of warty growths. In his own person, spiculæ of glass seemed to lead to increased formation of epidermic cells and the development of warts. The exposed surfaces being those on which warts habitually develop would lend weight to this theory. The delicate tissues of childhood also favor easy penetration of foreign bodies.

DR. S. B. BROWN, the oldest practicing dentist in Fort Wayne, Ind., died January 5, 1897, of heart trouble, from which he had suffered for some time.

BROWN CEMENT, SUITABLE FOR MICROSCOPIC WORK.—The *Chemist and Druggist* recommends either a thick solution of shellac in vegetable naphtha, or of gutta-percha in chloroform or bisulphide of carbon.

AN EXCEPTION.—In an examination of sanitary inspectors one candidate answered the question relating to the wilful exposure of a person suffering from an infectious disease: "He must not ride in any public conveyance, excepting a hearse, without first informing the driver."—*The Medical Times and Hospital Gazette*.

THE SANITARIAN gives the following mortality figures:

Deaths caused by	1885-1889.	1890-1895.
Small-pox	1,271	655
Scarlet fever	1,225	946
Measles	6,761	5,192
Diphtheria	8,383	7,588
Typhoid fever	5,903	3,493

TO REFLECT LIGHT.—To assist in reflecting light upon operations in the mouth on dark days, paint the dam around and between the teeth to be operated upon, or any surface which will act as a reflector, with Japanese wing or enamel white. Moisten the paint with 50 per cent alcohol, giving the rubber one or more coats, as the case requires. The paint comes in small tablets and is clean, pure white and odorless. Try it once and see the advantage.—*J. R. Bell*.

Obituary.

WILLIAM NEWTON MORRISON, D.D.S.

A special meeting of the St. Louis Dental Society was held on December 22, 1896. President F. F. Fletcher opened the meeting with the following remarks:

"Members of the St. Louis Dental Society—It was with heavy hearts that your officers sent you notice to meet here in special session this evening. As lightning from a clear sky came the news to us yesterday morning that one of our oldest, most respected and esteemed members lay cold in death. A man who but one short week ago sat in his place in the councils of this body and took part in the deliberations, and whom we had every reason to hope and expect would meet with us for years and aid us with his counsel and advice. A man known and respected wherever dentistry is practiced. He was a careful student, a ripe scholar and an inventor of much ability. Few men in our profession have been more progressive or lived to see their experimental work in untried fields adopted and approved by all. He was a pioneer in crown-work, bridge-work and implantation, and they stand to-day his most lasting monument. But he is gone. The last page of his life is before us.

"My friends, in the death of William N. Morrison the dental world loses one of its pioneer and brightest stars. This society has lost one of its ablest men and most staunch supporters. Every member has lost a friend whose place will not easily be filled. May no uncharitable word be spoken, but as we say peace to his ashes may his memory ever be kept green by the greatness of his achievements."

Appropriate remarks were made by Drs. H. J. McKellops, G. A. Bowman, J. H. Kennerly and William Conrad.

The following committee—Drs. H. J. McKellops, John G. Harper and A. H. Fuller—was appointed to prepare a biographical sketch of Dr. Morrison, and the committee on January 5 presented this report.

BIOGRAPHICAL.

William Newton Morrison, D.D.S., born in East Springfield, Ohio, May 25, 1842; died in Hot Springs, Ark., December 20, 1896.

He was one of thirteen children of John R. Morrison. Those surviving are James B., Mrs. Lane, of Kansas City, Mo., and Mrs. Cook, Mendota, Ill.

Dr. Morrison's early education was but meager, obtained in the common schools. He worked in his father's saw-mill while at home, but left in 1858 and came to St. Louis to become a student of his brother, James B., the inventor of the Morrison dental engine and chair.

He arrived at his brother's office penniless, having spent his last money to have his boots blackened and his clothes brushed, so as to make a presentable appearance. The brothers kept bachelor's hall in the same building occupied as an office.

James B. went to Europe in 1862 and William then took charge of Dr. H. J. McKellops' office, who also left the city about that time.

In 1864 he graduated from the Ohio Dental College.

In 1865 he and Miss Cornelia Holme, of Hannibal, Mo., were married; two sons were added to the family, Peter Holme and William N.; the former is married and has a son two years old.

The doctor was so successful in his early practice as to be able in 1872 to build at 1401 Washington avenue a house which combines a dwelling and a dental office, each complete for the purpose intended, the plans being made by the doctor and published with illustrations in the *Missouri Dental Journal*.

Dr. Morrison belonged to a family of dentists, having an uncle, two brothers and two cousins who followed that profession.

As a dentist Dr. Morrison kept abreast of the profession and was one of the first to use the mallet and to construct gold crowns.

He was one of the first to revive the "planting" of teeth, as he called it, his first cases being reported in 1874. The last report was made at the last meeting of the St. Louis Dental Society he attended, on December 1, 1896.

He was fond of visiting the offices of dentists, and when in a town or city made it a rule to call on the members of the profession there located, to learn what he could and cheerfully give to others ideas which he thought might interest or benefit them. He always took pleasure in entertaining dentists of the city and those from abroad.

Dr. Morrison was a constant attendant of dental societies and belonged to the American, Southern, Mississippi Valley, Illinois, Missouri and St. Louis, frequently writing papers, giving clinics and joining in the discussions, also holding office in those of which he was an active member, having been president of the Missouri and St. Louis—twice of the latter. He took an active part in the Missouri Dental College, filling the chair of mechanical dentistry, also acted as demonstrator and gave clinics every session when in the city.

Dr. Morrison traveled extensively for a dentist. July, 1878, he started on a trip around the world which consumed about a year. While on this trip he learned all he could regarding the status of the profession in the countries visited, bringing home with him specimens of work found while abroad. He also made a large collection of photographs of places visited; these he frequently exhibited publicly in the aid of charity. In 1890 he took a trip to Germany for his health; again in 1894, accompanied by his wife, he made a trip to Europe. He had been in the West Indies and also traveled extensively in this country.

Dr. Morrison was a writer for our journals and many of his articles and

items are to be found in the *Missouri Dental Journal* and its successor, the *Archives of Dentistry*, both of which he aided in more ways than one. He was one of the editors of the department of Mechanical Dentistry of the former for four years.

He became a Mason in 1865. He was brought up a Methodist, but, after marrying, joined the Presbyterian Church, belonging to the Second.

Dr. Morrison was a public-spirited citizen and did his share for the public good. He, at his own expense, placed numbers of the streets on Washington avenue from Jefferson avenue to King's highway.

Dr. Morrison was as well known and esteemed in this country and abroad as any dentist in our city. He was the inventor of the Morrison dental bracket, which was one of the first put on the market.

Dr. Morrison made friends wherever he went and none ever heard him say aught against anyone.

His success was gained by hard, faithful work, and he was ever ready to lend a helping hand to his fellow man.

H. J. MCKELLOPS,	} Committee.
JOHN G. HARPER,	
A. H. FULLER,	

DR. JAMES A. SWASEY.

We are called upon to mourn the death of one whose face will no longer be seen in our midst—Dr. James Atwood Swasey, for many years an active member of this society.

This sad event occurred early in the morning of December 24, 1896, at his residence, 3017 Michigan avenue, Chicago.

Dr. Swasey had been in his usual good health up to about the middle of November, when he first noticed that he was suddenly breaking, and he went to West Baden Springs for a few days; but not finding the desired relief he returned to his summer home in Michigan, and from thence came to Chicago, where he died surrounded by his family and friends.

Dr. Swasey was the president of this society when the twenty-fifth anniversary was celebrated in 1889. He was president of the Odontological Society of Chicago in 1894-5, a member of the Illinois State Dental Society, the American Dental Association, and a member of the first International Dental Congress, Paris, France, 1889. He was also the first president of the Chicago College of Dental Surgery, and was reelected for several years. He was an honorary member of several dental societies, state and local, in the United States.

The society loses one of its best representatives in the death of Dr. Swasey. He was a man of strong character, high minded and generous, with a pleasing manner, modest in his estimate of his own acquirements, and ever ready to counsel and assist others. He was a firm friend and strong partisan, energetic and industrious, an inventor of many useful appliances, and devoted to his profession to the last. We shall miss his familiar face and hearty grasp of the hand in all of our subsequent sessions.

We mourn with his family in this their hour of affliction and extend our sympathies.

We place these lines of respect to his memory in our journal records with the thought that his life had been useful to the community where he had resided for so many years, and with the ever-present hope and belief in the immortality of his spirit forever and forever.

Be it resolved, that a copy of this tribute be sent to his family and to the dental journals for publication.

A. W. HARLAN,
TRUMAN W. BROPHY,
F. H. GARDINER,
Committee of Chicago Dental Society.

The Bronson Pliers...

Actual length,
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These Pliers are made heavier than ordinary Pliers and will be found most useful instruments in practice for:

Inserting and removing wedges.

Removing small roots and loose small teeth, avoiding use of forceps.

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says Dr. F. H. Funston in *Popular Science News*, "dentifrices have multiplied by thousands, each presenting its own peculiar claim. Some are really valuable; others are harmless; not a few are dangerous. Tooth powders, too, which sometimes accompany fluid dentifrices, must also be looked upon with suspicion, as they not infrequently contain ingredients that may prove detrimental

"A recent improvement in this line is



EUTHYMOL TOOTH PASTE



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"To the mind of the writer this preparation warrants specific mention, inasmuch as it offers the ideal of a dentifrice in that it is at the same time a powerful antiseptic, reasonably detergent, modest in price, pleasant in odor, and exceptionally grateful to mouth and gums, while last, but not least, its use affords a positive protection against foul breath and other conditions peculiar to the mouth that lead to retraction and softening of the gums, staining of enamel, formation of tartar, and decay, it is likewise a reasonably certain guarantee against a number of diseases which gain entrance to the human organism through germs in the mouth and digestive organs."

[*Popular Science News*, August, 1896, page 190.]

WRITE FOR TRIAL PACKAGE.

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